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THE

Journal

OF

The Society of Architects

FOUNDED 1884; INCORPORATED 1893.

Including Transactions and Architectural Notes.

JULY, 1909.



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STUDENTS' SKETCHING PARTIES.
REGISTRATION.
EXAMINATION PAPERS.

MAINLY ABOUT MEMBERS.
INN SIGNS.
A MUNICIPAL ABATTOIR.

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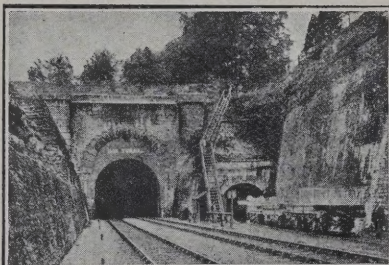
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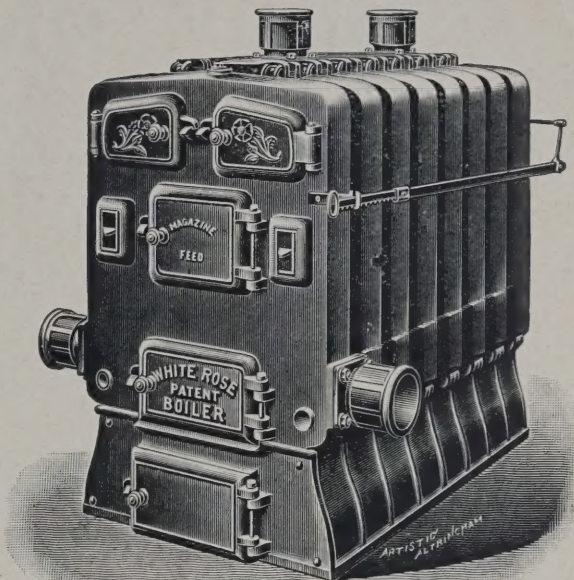
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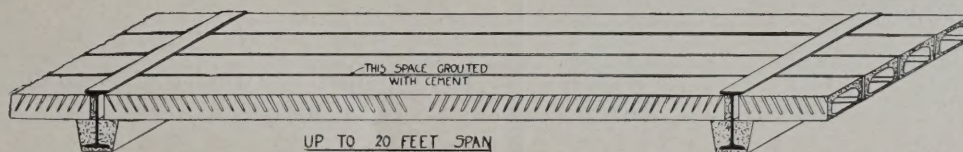
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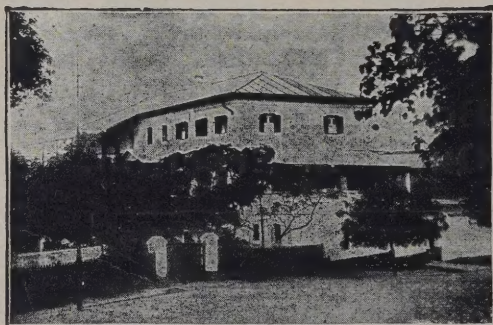
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The Society is not, as a body, responsible for the opinions expressed by individual authors and speakers.

Students' Sketching Party to Hatfield House.

The Sketching Party to Hatfield House, on June 19th, was even more successful than the visit to St. Albans in May, there being twenty-five ladies and gentlemen in the party including two members of the Council, Col. Leslie, and Mr. Milnes Emerson. The party was first shown round the interior of the house, and the more energetic members, of whom there was a good proportion, made numerous thumbnail sketches of the delightful Elizabethan details, and also roughly measured sketches of the mouldings. The so-called marble hall with its beautiful minstrel gallery was first visited. Thence the party was conducted through the corridor on the South front to the chapel in the North wing. Although the chapel contains much elaborate carving and painting, it is not particularly interesting either architecturally or historically, as it only dates back to 1837, being rebuilt after the original had been destroyed by fire. Thence the tour was continued up the stairs in the West wing through the chapel gallery to the long gallery and library and down the North-west stairs. The party then visited the principal chambers of the East wing, and paid particular attention to the principal stairway. Passing into the grounds through the South entrance, the party settled down to sketch and photograph and to enjoy the beauties of the gardens on the South and West front. A quantity of work was done with pencil, brush, and camera, and no doubt the Society will be able to see the result of the work at the Students' night, to be held during the winter months.

Proposed Visit to Surrey Churches.

The next visit (July 17th) will be to Merstham and Gatton in Surrey. At the latter place there is one of the most interesting little churches in the country. It has been fitted by a late incumbent with some fine canopied oak choir stalls of Flemish workmanship. The altar and pulpit are from Nuremburg, attributed to Albrecht Dürer.

At the West end there is a fine curved oak West-country screen, and the chancel is panelled with Burgundian carving, while there are portions of Elizabethan date. Merstham has also an interesting church with work of all the Gothic periods and good details and brasses.

☞ Sir Jeremiah Colman has kindly given permission to visit Gatton House. The party on arriving at Merstham will walk to Gatton Park, thence to Gatton Church. Tea will be served at Merstham, and a visit paid to Merstham Church.

Travelling Facilities.

A special return fare has been arranged for the party to Merstham on July 17th. Return tickets 1s. 11d. each, may be obtained from Mr. H. Y. Margary, 67, Lewin Road, Streatham. The party will travel by the train leaving Charing Cross at 2.12 p.m., and London Bridge, at 2.18 p.m. Cheap tickets cannot be booked at the Stations. Those who cannot travel by the above train must book at the Station to Merstham, 2s. 5d. return. There is a later train leaving Charing Cross at 3.8 p.m., Cannon Street 3.18 p.m., London Bridge 3.21 p.m.

Whole-day Visit to Brickworks.

THURSDAY, JULY 22nd, 1909.

By the courtesy of Messrs. Thomas Lawrence & Sons, of Bracknell, members and students of the Society are invited to visit the brickworks at Wokingham, Bracknell, Warfield and Swinley, on Thursday, July 22nd.

Train leaves Waterloo at 10 a.m. for Wokingham, where the party will be met and taken to the various works. Luncheon and Tea will be served at Bracknell, by kind invitation of the Directors, and the party will return to town by the 6.37 p.m. train from Bracknell.

The only expense will be the railway fare (ordinarily 6s. return), regarding which arrangements will be made for reduced fares if sufficient names are received.

Further particulars will be sent only to those who notify the Secretary not later than July 15th.

The Registration Movement in Africa, Australia and America.

THE principle of Registration has been adopted by the Allied Architectural Societies in Africa and Australia, and also by the Municipal Authorities of New York, and we are able to give some of the main points contained in the Bills promoted by the Transvaal Institute of Architects, and the Institute of Architects of New South Wales as well as some particulars of the section of the proposed Building Code in New York City, under which it is proposed to register everybody connected with the design and construction of buildings.

It would seem that the Registration Bills referred to are put forward with the support of all interested, and that, therefore, it is extremely unlikely that there will be any opposition when they are presented in the Legislature. Under these circumstances we may anticipate that the Colonies will give us a lead in this matter, and demonstrate the fact that all that is required at home to achieve similar success is similar unity of purpose on the part of the promoters, combined perhaps with a simpler legislative procedure than that at present obtaining in the home Parliament.

However that may be, we heartily wish our Colonial brethren that success which they deserve, and we are glad to know that the assistance which The Society of Architects has been able to render the Institutions concerned has been of material advantage to them.

Registration in the Transvaal.

The Bill promoted by the Transvaal Institute of Architects, provides that the provisional council shall open a register in which any person shall be entitled to be registered as a public architect in pursuance of the Act who proves to the satisfaction of the provisional council within six months next after the passing of the Act that at the date of the passing of the Act or at the time of his application for admission he was resident in British South Africa, and (a) was a member of the Transvaal Institute of Architects or of any other institute or society of architects of equal standing, or (b) was publicly and *bona fide* practising as an architect in the Transvaal, or (c) was at such aforesaid time, or prior to the passing of the Act, engaged as an assistant to an architect in the Transvaal and shall have had at least seven years' professional experience, or (d) that in the opinion of the majority of the provisional council present and voting he is possessed of qualifications and experience at least equal to those in one or other of the foregoing instances.

Upon the expiration of six months from the date of the passing of the Act no person shall be entitled to be registered as a public architect unless he shall prove to the satisfaction of the council hereinafter mentioned that at the date of his application for registration he is resident in British South Africa and has attained the age of twenty-one years, and (a) has passed the examination for associateship of the Royal Institute of British Architects or the examination for membership of The Society of Architects of London or the examination conducted by the council and prescribed by the bye-laws of the association or some other examination equivalent in the opinion of the majority of the council to one of these examinations and who has in addition had at least four years' professional and practical experience as an assistant to an architect, or (b) who prior to, or at the time of the passing of the Act, or who has since been registered as an associate or fellow of the Royal Institute of British Architects or as a member of The Society of Architects of London or the Transvaal Institute of Architects or of some other society or institute of architects which requires of its members qualification and standing at least equal to that of one of these societies.

Where the council has refused to register the name of a person applying to be registered, such person may apply on notice of motion to the Supreme Court for a review of the decision of the council, and the said Court may thereupon make such order as it may deem fit.

The following acts and practices whether of commission or omission upon the part of any public architect shall be offences under the provisions of the Act and if found guilty by the Supreme Court of having committed or engaged in any one or more of such acts or practices the said public architect shall be liable to be suspended from practice for any period that may be decided on by the said Court or to have his name removed from the register as hereinafter provided ; that is to say :—

- (a) Allowing any person not being a member of the association or in partnership with himself as a public architect to practise in his name as a public architect.
- (b) Directly or indirectly allowing a builder or other principal or agent not being his partner to participate in the profits of his profession or directly or indirectly accepting any share of the profits from the professional work of a builder or other principal or agent not being his partner or any commission or bonus thereon.
- (c) Signing accounts, statements, reports, specifications, plans or other documents purporting to represent any architectural work performed by himself which work shall not have been carried on under his personal supervision or direction.

- (d) Directly or indirectly paying a person a commission for bringing him work, giving any person monetary or other consideration as a remuneration for bringing him work or inducing other persons to give him work.
- (e) Advertising, touting or improperly obtaining or attempting to obtain work.
- (f) Performing any architectural work in connection with any matter which is the subject of dispute or litigation upon condition that only in the event of the said dispute or litigation ending favourably for the party for whom the work is performed shall payment be made for such work.
- (g) Conducting himself dishonourably in connection with any work performed by him as a public architect.
- (h) Wilfully refusing or neglecting to carry out and perform any bye-law or order lawfully adopted and established by the association regarding any point of professional practice.
- (i) Engaging in any practices or performing any acts similar to those acts and practices prohibited in the foregoing sections.

The remainder of the Bill relates to the power of the Council and details arising out of the administration of the Act.

Registration in New South Wales.

Mr. Ernest A. Scott, President of the Institute of Architects of New South Wales, in his opening address said in the forefront they placed Registration of Architects, but hardly anticipated that they would complete their work under this heading within the year. Good work had been done in this direction, and a Bill was now being revised for presentation to Parliament during this coming session, which he earnestly trusted might be passed, as passed it certainly would be if the State Parliament should recognize the great amount of good it would do for the public as well as the architectural profession. Perhaps the older men now in practice might derive little benefit from the change, but the younger men and architects of the future would reap the reward of the work, if they were so fortunate as to have their wishes granted, and see their profession occupying the position in the public eye it certainly should.

The Bill promoted by the Institute of Architects of New South Wales commences by defining "Architects" and "Building" as follows:—

"Architect." Any person who shall be engaged in the planning or supervision of the erection, enlargement, or alteration of buildings for others, and to be constructed by other persons than himself, shall be regarded as an Architect within the provisions of the Act, and shall be held to comply with the same; but nothing contained in the Act shall prevent the draughtsmen, students, clerks of works or superintendents, and other employees of those lawfully practicing as architects, under license as herein provided for from acting under the instruction, control or

supervision of their employers ; or shall prevent the employment of superintendents of buildings paid by the owners from acting if under the control and direction of a licensed architect who has prepared the drawing and specifications for the building.

" Building." A structure, consisting of foundations, walls or supports, and roof, with or without the other parts ; but nothing contained in the Act shall be construed to prevent any person, mechanic or builder from making plans and specifications for, or supervising the erection, enlargement or alteration of any building that is to be constructed by himself or employees ; nor shall a civil engineer be considered as an architect unless he plans, designs and supervises the erection of buildings, in which case he shall be subject to all the provisions of the Act, and be considered as an Architect.

The necessary machinery for Registration is provided and the Board reserves the right to refuse to register as an Architect or to remove from the register any person who has been convicted of any felony or misdemeanor, or of any offence which, if committed within this Colony, would be a felony or misdemeanour ; or has been guilty of infamous conduct in any professional respect.

QUALIFICATION NECESSARY FOR REGISTRATION.

Any person shall be entitled to be registered as an Architect under the Act who holds some recognized Degree, Diploma or Certificate as hereinafter defined, and who proves to the satisfaction of the Board that he is of good character, or who has attained the age of twenty-one years and has for a period of two years before the commencement of the Act been *bona fide* engaged in New South Wales in the practice of Architecture and who has made application for Registration to the Board within one year from the commencement of the Act ; or has been engaged during a period of not less than ten years in the acquirement of professional knowledge in Architecture, or has passed an examination before the Board according to the prescribed regulations ; or has attained the age of twenty-one years and shall have been a pupil or apprentice for a period of not less than four years to an architectural practitioner entitled to be registered under the Act ; and had two years' further experience to the satisfaction of the Board ; and has passed an examination before the Board according to the prescribed regulations.

Any person who has practised Architecture for not less than two years elsewhere than in New South Wales, and who holds some recognized certificate as hereinafter defined, and who proves to the satisfaction of the Board that he is of good character, shall be entitled upon the payment of the prescribed registration fees and without examination to be registered as an architect under the Act.

No person shall be entitled to take or use the name or title of " architect " or of " architectural practitioner " or any name, initials, title, addition, or description

implying, or would lead the public to believe that he is registered under the Act, unless he is registered hereunder. Any person who not being a duly qualified Architect so registered, takes or uses any such name, initials, title, addition or description as aforesaid shall be liable on conviction to a penalty not exceeding £20.

No certificate required by any Act now in force or that may hereafter be passed or that is required by custom from an architect shall be valid unless the person signing the same be registered as an Architect under the Act.

A copy of the register kept in pursuance of the Act, signed by the President of the Architectural Board, shall, in any proceedings under the Act be *prima facie* evidence that the persons whose names are therein contained and no others were, up to and including the time when the said copy of the register was so *signed*, legally qualified Architects.

The Bill concludes with penalties for falsifications of the Register and Schedule of Fees, the Registration Fee being Five Guineas, and the annual renewal One Guinea.

The Registration of Architects, Engineers and Contractors in America.

In a letter addressed to *The Engineering Record*, a builder points out that the very old proposition to register or license everybody connected with the design and construction of buildings has been brought to the front prominently by the proposed building code for New York City; and as if the registration clause is adopted in New York it will undoubtedly be adopted elsewhere, and he thinks it will work needless hardship. The section of the proposed law is to the effect that there shall be a board of registration of five members, one of whom shall be a registered practicing architect, one a registered practicing consulting engineer, one a registered practicing structural engineer, one a registered practicing mason builder, all personally engaged in building construction and superintendence and residents of the City of New York.

The Board is to be authorized to examine an engineer, architect, mason or carpenter builder, and a master erector of steel or iron work, who may be either a resident or non-resident of the City of New York, as to his qualifications and competency to practice or carry on his business, trade, or calling; to grant a certificate of qualification and competency and authorize his registration in said city. Examination may be dispensed with upon an application verified by the applicant. and satisfactory proof, by affidavit or otherwise, of his qualifications and competency to practice or carry on his business, trade or calling, and that he has been actively engaged as an engineer, architect, mason or carpenter builder, or a master erector of steel or iron work for ten years prior to the date of the filing of said application with said Board. It may limit the examination and registration to such class of persons

as it may deem proper, and may revoke and cancel a certificate of qualification and competency for a limited or unlimited term. The Fee for such examination is not to exceed \$10.

Within six months after the adoption of the code, a qualified person who may desire to become a registered engineer, architect or mason or carpenter builder, or a master erector of steel or iron work, shall record his name and address at the Office of the Board of Registration, and shall obtain a certificate thereof from said Board. After that time, no person shall be registered as an engineer, architect, mason or carpenter builder, or a master erector of steel or iron work, unless at the time of applying for such registration he shall hold a certificate of qualification and competency from said Board of Registration.

Hereafter all applications, plans and drawings shall be prepared or signed by a registered engineer, registered architect or registered builder before filing under Chapter IV. hereof, and every building shall be erected, altered or removed under the supervision of a registered engineer, registered architect or registered builder; and an apparatus or appliance to which any plumbing, drainage, sewerage, gas or water piping is appendant, or any plumbing, drainage, sewerage, gas or water piping connected therewith, shall be erected or altered under the supervision of a registered master plumber.

Registration shall be cancelled by the Superintendent of Buildings upon revocation thereof by the Board of Registration for an intentional or wilful violation of any of the provisions of this code, or upon evidence of gross incompetency.

These quotations are from the code proposed by the majority of the commission appointed to draft it; the code proposed by the minority of the commission provides for a board of registration composed of two architects, two engineers, two builders and a mechanic. It also makes it necessary for master plumbers, master steamfitters and master electricians to be registered by the board.

There can be no question that there is a tendency at present in many circles to require the registration of architects and engineers on the ground that such registration being revocable on evidence of incompetency, gives the authorities an opportunity to prevent an unqualified person from continuing in business very long. The same argument is used for the registration of master builders, plumbers, steamfitters and electricians, but there is one feature of it when so applied which is usually overlooked entirely. This is the fact that very often the master plumber or master builder is not himself skilled in his trade. He is a business man primarily, and there is no real necessity for his being a skilled mechanic, for he can engage highly skilled men for superintendents and foremen. This is actually the case to-day with a number of prominent contractors engaged in the building trades, men who do only good work and refuse to undertake anything

which will bring discredit on their reputations. These men cannot pass an examination as to their skill as mechanics, nor do they make pretence to having any, and yet they are properly numbered among the most reliable contractors. The case is just like that which exists in the printing business, in which the master printers are not often practical workmen in the trade. There is an opportunity given for grave injustice toward some of the best masters in the building trades by the section of the proposed code just quoted, and the writer believes it should receive the critical attention of those liable to be affected by it, before it is accepted. Registration is all right, but it should not be so conducted that many of the leading contractors in the city may be forced to resort to subterfuges in order to comply with the law.

Timber Specifications. Visit to Surrey Commercial Docks.

Last March, a very interesting paper on "Specification and Inspection of Timber" was read before the Society by Mr. J. Davies, of the *Timber News*, who afterwards invited the members to accompany him at some future date to the docks, with a view of inspecting some of the materials to which reference had been made.

A number of members availed themselves of this opportunity on June 11th, the party assembling at Deptford Road Station, where they were met by Mr. Davies, who conducted them through a number of sheds at the docks, and for several hours held the attention of the party by his clear, interesting and instructive remarks on the subject with which he is so well acquainted.

Before separating, Professor Henry Adams expressed the thanks of the members to Mr. Davies for his kindness and the hope that it might be possible to visit some other sheds on another occasion.

The New Municipal Abattoir and Live-Stock Market at Johannesburg.

Since the early days of Johannesburg the slaughtering of animals intended for human consumption has been conducted on the outskirts of the town on areas—called slaughter poles—duly licensed and set apart for this purpose, but it has been realized that the time has now arrived when the town must fall into line with all other largely populated centres and adopt modern and up-to-date methods, so as to ensure a sound and wholesome meat supply.

With this object in view the Municipal Council, about twelve months ago, resolved to set apart ten acres of ground in Newtown adjoining the Kazerne, valued at £35,000, and an amount of £43,650 for the erection, equipment and laying out in the most modern manner of an Abattoir and a Live-Stock Market.

A large amount of preliminary work was carried out by the Town Engineer, Mr. G. S. Burt Andrews, M.S.A., and the Medical Officer of Health in regard to the whole question of Abattoir accommodation for Johannesburg, and also the Municipal Veterinary Surgeon when on leave in Europe, specially visited many of the more up-to-date Abattoirs, studying the question in the light of Johannesburg requirements.

The Council offered three prizes of £150, £125 and £100 respectively for the three best designs of a thoroughly up-to-date Abattoir, equipped with all the latest and best appliances.

Upon adjudication of the designs submitted it was found that none of them was suited to the local conditions. The Town Engineer and Municipal Veterinary Surgeon were then requested to collaborate in the preparation of plans for an Abattoir and Live-Stock Market, complying with local requirements. These were duly prepared, in consultation with the Medical Officer of Health, and approved by the Council.

The work of erecting the Abattoir and laying out the Live-Stock Market is now being rapidly proceeded with.

This work is estimated to cost £51,000, which amount, added to the valuation of the ground—£35,000—brings the total estimated cost of the scheme to £86,000.

The Abattoir Buildings.

The Main Buildings of the Abattoir face Pim Street, the front portion being the Cooling Room, measuring 173 ft. by 61 ft. 6 in., with hanging accommodation to provide for two days' slaughtering. This building is being constructed on the most modern principles, and the lighting so arranged as to give the best results without an increase of temperature.

Separated from the Cooling Room by a partially covered roadway, 20 ft. wide, are the Slaughter Halls for Oxen and Sheep; these will be fitted up with the latest

appliances for the expeditious handling of carcasses. Immediately behind the Slaughter Halls are placed the pens for cattle and sheep awaiting slaughter. Separate Slaughter Halls for Pigs are placed to the East, and are to be fitted up with all the latest appliances for scalding and dressing the carcasses. The Pens for Pigs awaiting slaughter are immediately behind the Slaughter Halls.

The floors of all Slaughter Halls will be constructed of concrete and the walls lined with glazed tiles.

A complete system of overhead travelling rails between all Slaughter Halls and the Cooling Room for the conveyance of carcasses will be installed.

Spraying pipes will be fixed round the walls of all Slaughter Halls at a height of about 5 ft. from the floor for cooling and cleansing purposes.

The Tripery, Blood and Offal Houses are placed to the East of the Pig Slaughter Halls, and a Trolley Line, with the necessary trucks, will be laid from the Slaughter Halls to these places.

Behind the buildings already described are placed the Covered Lairages. These will be fitted with water troughs and hay racks, and provide accommodation for 400 oxen, 3,000 sheep, and 400 pigs.

Behind the Lairages is the Forage Store, and a Trolley Line will connect up these buildings. On the East side are the Quarters for Staff.

The Dead Meat Depot, through which must pass for examination and inspection all dead meat imported into Johannesburg, stands to the East of the Quarters.

All animals entering the Abattoir by road will pass through the gate on the Eastern side opening on to Melville Street, and all carcasses being removed, will be taken out by the gateway on the Southern side opening on to Pim Street.

Accommodation for slaughtermen, comprising waiting, dressing and bathrooms, is being provided.

Provision, by means of a basement, under the main cooling room, is being made for the installation, at a later date, of a refrigerating plant and chill rooms.

On the West side of the Abattoir, separated by a roadway 50 ft. wide is the Live-Stock Market. The main entrance is from Pim Street through a double gateway constructed of free stone.

It contains two blocks of ground—one measuring 330 ft. by 287 ft., with a roadway 25 ft. wide passing through the centre. This portion is set aside for cattle, sheep and pigs, and will be paved throughout with vitrified grooved stable bricks; cattle pens, constructed of tram rails, to accommodate 90 cows and 700 oxen; sheep pens, constructed of bar iron for 4,000 sheep; and pig styes, constructed of hard blue bricks to hold 400 pigs will be erected thereon. All the pens will be provided with water troughs and a portion of them with feeding racks.

Four Sale Rings will be placed at the side of the roadway running through this area and three of these will have Weighing Machines with self-registering dials.

To the West of the Paved Area is situated the other block reserved for the sale of Horses, Mules and Donkeys.

Provision will be made by means of Hydrants, and Stand Pipes for the efficient cleansing of the whole area, and a complete system of drainage is being laid down.

A plentiful supply of Water is pumped from a borehole 300 ft. deep on the ground.

A complete system of Electric Light is installed throughout.

The Administration Offices are conveniently situated between the Pim Street entrances of the Abattoir and Live-Stock Market.

Ample provision has been made for future extensions.

Local Honorary Secretaries.

Annual Appointments.

The Council have decided to revert to the original plan of appointing Local Honorary Secretaries annually. The appointments will take place in November, and members willing to serve are invited to communicate with the Secretary.

The Royal Architectural Institute of Canada.

The President, Mr. A. S. Dunlop, has received an intimation from the Governor General of Canada, that His Majesty the King has been pleased to grant permission to the Institute to adopt the prefix "Royal" The R.A.I.C. was founded in August, 1907, and Incorporated in June, 1908. The Secretary is Mr. Alcidé Chaussé, M.S.A.

Travelling Studentship, 1909.

Exhibition of Drawings.

The Drawings having been on view at the Society's premises, a selection of them have since been exhibited at Cardiff under the auspices of the Cardiff and South Wales Architectural Society, of which MR. G. A. BIRKENHEAD (Member) is now the Hon. Secretary. They are now to be seen at the Municipal School of Art, Birmingham, by arrangement with the Birmingham Architectural Association.

The Journal of
The Society of Architects.

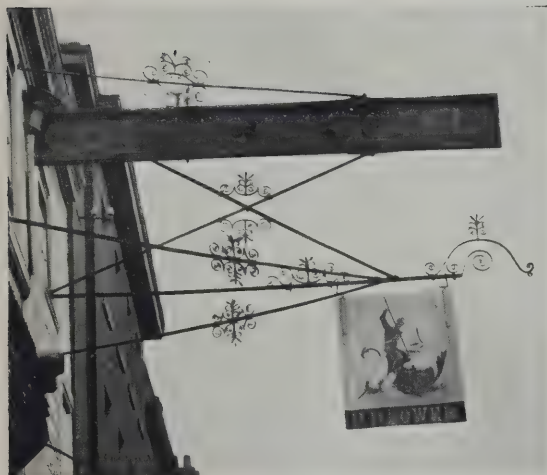
Wrought Iron
Inn Signs.



THE "THREE SWANS" MARKET HARBOROUGH.



"THE BULL," BENTON.



"THE GEORGE," AMERSHAM.



"THE BLUE BALL," BENTON.



THE "BUCKINGHAM ARMS," GT. MISSENDEN.



"YE OLDE RED LION," HIGHGATE HILL.



"THE GEORGE AND DRAGON," GRAVELEY.



"YE OLD ANGEL INN," AYLESBURY.

Some Wrought-Iron Inn Signs.

By GEORGE TROTMAN (Member).

It may interest those who have travelled the old coaching roads of the country, to recall some of the fine old Inns with their interesting decorative signs. Some of these are works of art worth recording, and I have the permission of my friend, Mr. Welbye to reproduce the accompanying photographs.

Information is difficult to gain concerning these old signs, but I believe there is little doubt that they were mostly wrought by the local blacksmiths. These men were evidently craftsmen with a love for their work, and the ironwork being so well placed has in most cases led to its being preserved.

No doubt it behoved the Innkeeper of old coaching days—no less than at the present time—to make his place of call as attractive as possible to the traveller, hence the projecting signs. Many of the signs were frequently constructed of wood, projecting across the road and were popularly known as Gallows signs. English and foreign historians have often mentioned them. The medieval Innkeepers were not averse to spending money to attract custom, and it was not infrequent for large sums to be spent on these signs; Harrison mentioning that in Queen Elizabeth's time, that £50 was spent on the erection of one. It is also recorded that the one at Scole in Norfolk of the time of James I., cost £900.

Amongst the earliest signs of which we have record, was the besom, or bunch of green stuff projected from the house, then the ragged bush gave way to green boughs arranged round a hoop in a systematic order. The hoop developed later into a series of hoops.

Next we find the foliage giving place to ornamental scroll ironwork, and to this was hung a little wooden bacus astride a tun or a bunch of grapes or hops, the grapes or vine leaves in some cases being very cleverly wrought. The hooks from which the bacus or grapes were hung can be clearly seen in several of the photographs. The later signs often consisted of a frame in which was hung the sign of the house, which in many cases was the heraldic device of the Lord of the Manor.

These ornamental projections were frequently embellished with Parliamentary colours, and in the days of the hustings played their part. At Grantham it may be noted a short time since, no less than two-thirds of the signs were distinguished by their azure tint.



OXFORD MERTON CHAPEL FROM GROVE ST.



DRAWN BY HARRY W. SMITH (Student).

Oxford Architecture.

Some Sketches by Harry W. Smith (Student).

The sketch of Magdalen Tower shows it as seen from the bridge, which spans the river Cherwell, at the foot of the tower. Magdalen Tower is situated at the South-East corner of the College, and marks the termination of the famous High Street. It consists of four stories with octagonal turrets at the angles, the fourth or belfry story having on each side two fine Perpendicular windows. The tower is crowned by a rich open battlement 150 ft. above the ground, having eight crocketed pinnacles, alternately terminating in crosses and gilded vanes, and contains a celebrated peal of bells dating from 1623. On the 1st of May, in every year, at 5 a.m., the College Choir, in accordance with ancient custom, ascends the tower, and on its summit chant the Latin hymn "Te Deum Patrem colimus."

The point of view in this sketch of the Chapel Tower, Merton College, was the High Street end of Grove Street, facing South. This tower dates from the early part of the 15th century, and consists of two stages, the upper being divided on each side into two compartments, each containing a tall "Perpendicular" window with rich tracery, the whole terminating in an open embattled parapet, crowned with crocketed pinnacles and vanes.

Some New Books.

Memorials of Old Middlesex. By J. Tavernor Perry. Bemrose & Sons, Ltd. Price 15/-

In spite of its vicinity to London it is probably less known than any other county, and though many of its old villages are now "metropolitan boroughs," there are still to be found a large number of great houses, ancient churches and historic sites within its confines. The Ecclesiology of the county is fully described, "The Ancient Churches of the County," by the Rev. Dr. Cox; and "The Rood-Screens," by Mr. Aymer Vallance. A chapter follows on "The Battlefields," by Mr. J. Charles Wall; and the Earl of Ilchester describes his own residences "Holland House," the most interesting mansion, architecturally and historically, left in the county; Mr. S. W. Kershaw (Hon. M.S.A.) deals with "Fulham Palace and the Bishops of London," and Dr. Cox with "Syon Convent and House." "The Riverside Haunts of the Poets and Painters" is dealt with by Mr. Warwick H. Draper. There are also other interesting articles, and the book is very fully illustrated, not only with a large number of photograph, especially taken for this work, but by pen-and-ink sketches interspersed among the text.

Students' Competition Drawings, 1909.

Some Press Criticisms.

The scheme submitted by Mr. C. H. Hudson (the winner) is, says *The Builder*, unquestionably superior in convenience and compactness of plan, while that of Mr. Evans (special prize), displays more mastery in the elevations. Mr. Hudson makes his hall serve as part of the main corridor, and places his entrance flanked on either side by the headmaster's and headmistress's rooms in a single-story projection in front of the hall. The convenience of this arrangement (adopted in many recent secondary school buildings) counterbalances the awkwardness of the resulting elevation. The manual instruction room is well placed away from the main block on the boys' side, together with the conveniences and playing-shed; these are reached by a covered passage. A similar arrangement prevails on the girls' side. Altogether this is a design which displays great promise. Mr. Evan's elevations are very good, but the corridors would be very dark; on the other hand, he has not made a thoroughfare of the assembly hall; though we incline to believe that this is a doubtful advantage.

There is a wide gap between the work of these two gentlemen and that of the other competitors. Of these, the set numbered 26 shows the most ability. The elevations, though erring perhaps on the side of eccentricity, display genuine powers of design and tolerable draughtsmanship. No. 8 is marked by a sense of orthodoxy and proportion in the elevations, which, however, are very indifferently drawn; not that this is an extremely important fault. The author may console himself with the reflection that Wren was not greatly his superior in this respect. The elevations of the scheme numbered 18 are not at all bad. The hall is placed end-on to the frontage, and the effect of the large semicircular window is distinctly good. No. 3 is shown to advantage in a well-drawn perspective.

The subject set for the prize of £3 3s. offered by Mr. Edgar M. Leest (open to students whose age did not exceed twenty-three years on March 1st last), was a Volunteer Fire Brigade Station for a country town. The accommodation was to include engine house, firemen's common room, hose tower, stabling for four horses, harness room, necessary offices, and living apartments for the engineer in charge. A level corner site, 60 ft. by 70 ft., was supposed. No award was made, as none of the designs sent in were considered to be of sufficient merit. No. 2 is not a bad scheme; the elevations are inoffensive, and suitable to a country town. The hose tower, however, finishes in a very inept manner. No. 3 is eminently architectural, but much too ponderous; perhaps it was meant as a satire on the prevailing taste. The planning is bad. No. 4 is the most artistic set. The hose tower is really well designed.

The successful design No. 23, by Charles H. Hudson, says *The Building News*, indicates a fair knowledge of school requirements, the plan being a particularly clever one. Its fault is, perhaps, that the corridor from end to end of the building, parallel with the main frontage, is made to pass under the gallery along one side of the assembling hall, the effective area of which is thus largely reduced. If it could have been slightly screened off and the assembling hall brought forward, a considerable improvement would have been effected. The entrances at either end of the corridor are, however, exceedingly well contrived, with an almost immediate and covered access to the manual instruction room on one side, and to the covered playgrounds and cycle rooms on both. Everything is fully lighted and accessible, while the head master and mistress have their rooms properly placed in the centre of the main frontage, separated only by the principal entrance. The elevation is simple and satisfactory, but a little more attention might well have been paid to the architectural detail, so as to avoid eccentricities and to conform more to traditional treatment.

A second prize of £10 has been given to No. 16, by George Llewellyn Evans. His plan is not entirely unlike that which obtains the studentship; but the entrances at the ends of the main corridor are too direct and draughty, the cloak rooms are too large, and the rooms for the head master and mistress are less accessible, while the manual training room is placed within the main building, which is an entirely undesirable arrangement. The elevation is somewhat pretentious, but it is original and well proportioned, while the whole set is well drawn and fully dimensioned. It is obvious that, as happens in practical work, the final award was made upon the plan, while the second prize was given in recognition of architectural merit.

The remaining schemes are by no means so good as these two—indeed, some of them can only be considered as the elementary efforts of beginners. No. 8 is perhaps one of the best. In it everything is arranged round the assembling hall, with cross corridors at either end. The elevation is dignified and would come out very well in execution, with its brick Ionic pilasters on the upper floor.

Some students seemed to have but the most rudimentary notions of what a secondary school should be like, says *The Architect*, and we hope that all the competitors, without exception, will carefully study the paper on the subject read before the Society by Mr. G. Topham Forrest. A criticism on all the drawings submitted has been printed by the Society, but we think they should go further and invite all the competitors to attend under their direction a class of design presided over by a competent instructor. A very large number of the competitors seem to possess but the faintest idea of what design in architecture really is, either as regards plan, composition, or detail.

Amongst the faults very generally to be found in the designs are the bad or improper lighting of the art rooms, the non-isolation of manual instruction room, cookery room and music rooms, and right-hand light to classrooms. These faults

clearly do not always proceed from an ignorance of what is required, but from an insufficient skill in planning to attain the desired ends, as witness the performance of the *naïve* young gentleman who labels his windows on faces at right angles to each other "north light." He does not designate the aspect of the windows in his art room on the opposite wall to the supposititious 'north light.'

The winning design, by Mr. C. H. Hudson, has the art rooms on the west 30 degrees north aspect, and would therefore in summer time get a share of the late afternoon sun. Although in the main well drawn, the detail shows a lack of skill in draughtsmanship, the cartouch and amorini over the principal entrance being quite beyond the author's skill. There is a sad lack of knowledge of detail, the exaggerated frieze and diminutive architrave of the entablatures, for example, being variations from the orthodox that have no prescience of genius for their justification.

The design placed second, by Mr. G. Ll. Evans, like the winning one, has the art rooms with the almost western aspect, and moreover quite insufficiently lighted by small windows and skylight with a tunnel shaft that would make the lighting not only feeble for an art room, but, what is worse, unequally disposed. The balance room is too far from the laboratory. The detail of No. 3 is one of the best bits of drawing in the room, but such faults in planning as a long lecture room with a through traffic route across the middle, manual instruction and cookery rooms in the main corridor, are hopeless. The elevations of No. 6 with a little more knowledge and experience might have been made comparatively quite decent in the present company. The detail of No. 11 is good, but his design lacks strength and repose. No. 20's plan might easily be made very much better—that is, it has the elements of a good one.

The Society of Architects.

Examination, April, 1909.

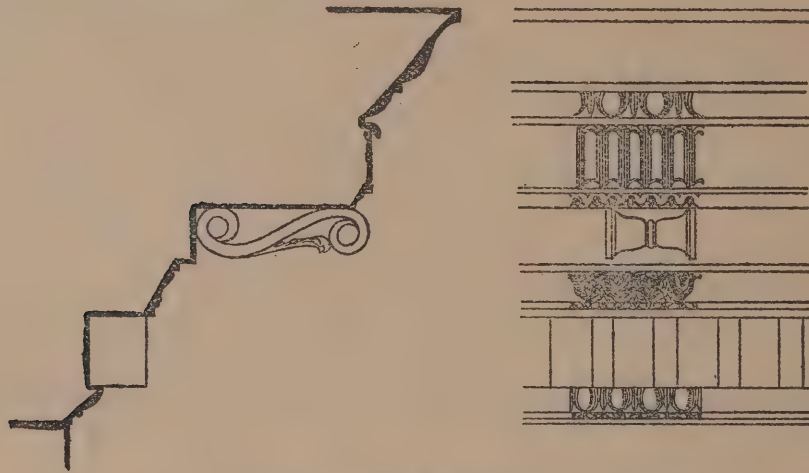
Section I.—ARCHITECTURE.

Subject b.—ARCHITECTURAL HISTORY.

WORKED ANSWERS by JAMES BARTLETT, Examiner.

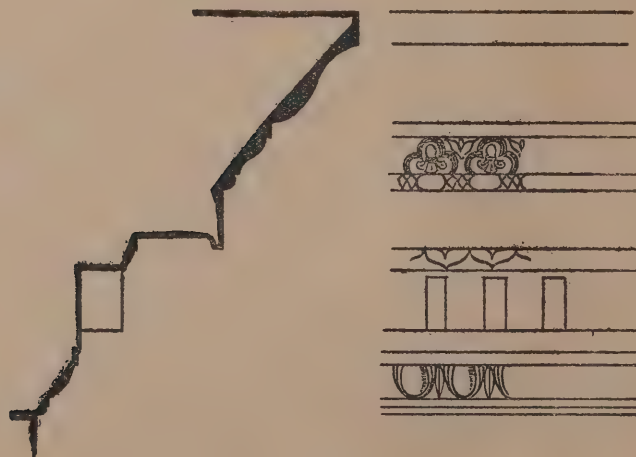
Question 1.—Give a section and elevation (not less than 3 inches high) of a Roman Corinthian cornice and a Roman composite, and name the building from which each is taken.

Answer 1.—See Illustrations.



TEMPLE OF CASTOR & POLLUX, ROME.

CORINTHIAN



COMPOSITE

ARCH OF SEPTIMIUS SEVERUS, ROME.

Question 2.—*Explain, by short descriptions or sketches, the following terms:—pronaos, peripteral, mutule, pediment, antefixa, annulet, stylobate, epistylion, amphiprostyle, hexastyle.*

Answer 2.

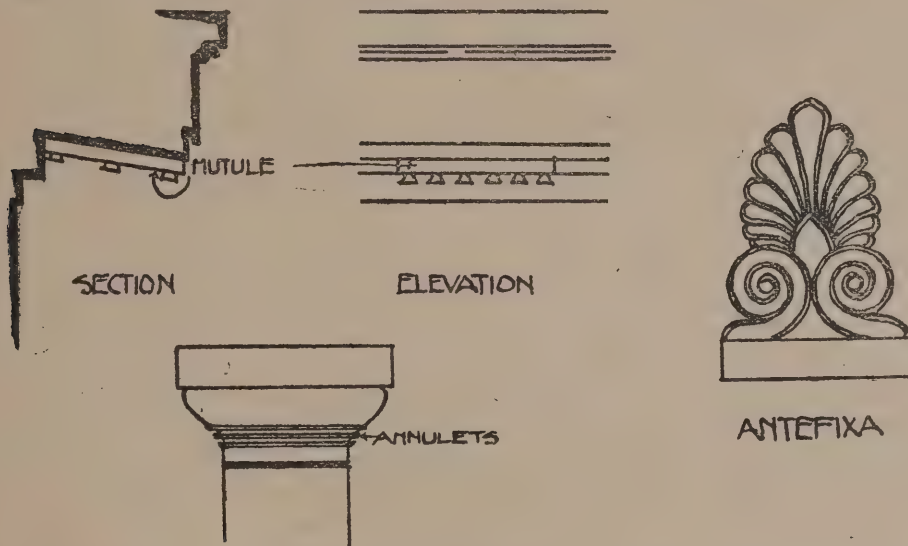
Pronaos. The front portion or vestibule to a temple.

Peripteral. An edifice surrounded by a range of columns.

Mutule. The projecting inclined blocks in the Greek Doric Order, supposed to be derived from the ends of wooden rafters (see sketch).

Pediment. In Classic architecture the triangular termination of the roof of a temple.

Antefixa. The ornaments placed along the top of the cornice of a temple to hide the joints of the tiles (see sketch).



Annulet. The small flat fillet encircling the necking of column. It is used repeatedly beneath the echinus of a Greek Doric column.

Stylobate. The steps which form the base upon which a temple stands.

Epistylion. The architrave of an entablature.

Amphiprostyle. A term applied to a Greek temple having columns in front and rear, but none at the sides.

Hexastyle. A portico with six columns.

Question 3.—*Describe the general disposition of a Roman house such as occurs at Pompeii, also the method of decoration used for walls and ceilings.*

Answer 3.—The general arrangement of a Roman house was as follows: The entrance door opened into a narrow passage called the "prothyrum" which led

to the "atrium" which was the principal apartment. It was an open court roofed in on all the four sides, but open to the sky at the centre. The centre opening was called the impluvium, and immediately under it a tank was sunk to collect the rain-water. As the atrium became larger the roof had to be supported by columns. At the end of this apartment were three others open in front. In these rooms all the family archives were kept and their position is between the semi-public part which lay toward the front and the strictly domestic and private part which lay in the rear. At the end of the atrium a passage or passages led to a grand private reception room. This was also a court open to the sky with its roof supported by columns. Round the peristyle were grouped the various private rooms which varied in size according to the size of the house, and the taste of the owner. There was always one dining-room, and frequently two or more which were arranged with different aspects. In the larger houses there were saloons, parlours, picture galleries, chapels, and various other apartments. The kitchen with scullery and bakehouse attached was generally placed in one angle of the peristyle, round which various sleeping chambers were placed. Most of the rooms were on the ground floor, and probably depended for their light upon the doorway only, although in some Pompeian houses small windows exist high up in the walls. In the extreme rear of the larger houses there was generally a garden. The houses of the wealthy Romans were decorated with the utmost magnificence, marble columns, mosaic pavements and beautiful pieces of sculpture adorned the apartments. The walls were in all cases richly painted, being divided into panels in the centre of which were sometimes represented human figures, landscapes and pictures of historical events. All the decoration of Roman houses was internal only, and the most sumptuous mansion had little to distinguish it externally and with the exception of the space required for the vestibule and entrance doorway, nearly the whole of the side of the house next the street was most frequently given up to shops.

Question 4.—*Give a short description of the principal characteristics of Norman architecture, and name one or two examples of buildings.*

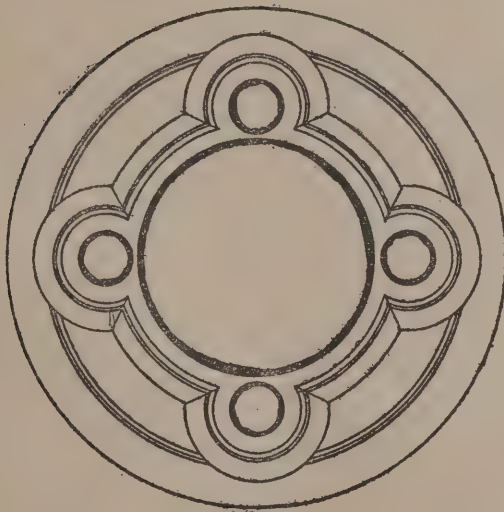
Answer 4.—The general appearance of Norman work is bold and massive. The arrangement usually adopted for the ground plan of the larger churches was the figure of a cross formed by a transept crossing the nave, and a low square tower was placed at the crossing or else at the west end of the building. The chancels were generally terminated by a semi-circular apse. The earlier examples of this style were very plain, but in the later examples a profusion of rich mouldings are exhibited, some of which are very heavy, but quite in keeping with the massiveness of the style. The arches are universally of a semi-circular shape, but are sometimes stilted. The pillars are very massive and rarely in one piece, being mostly made up of small pieces laid in courses. They are usually circular on plan. The capitals of Norman columns

are usually shaped like a cube with the lower edges rounded off, known as the cushion capital. The lower edge was often scalloped or fluted. The windows of this style were always semi-circular at the top and narrow externally and deeply splayed on the inside. There are also many circular or wheel windows in existence as at Iffley Church, Oxford. Doorways are deeply recessed and ornamented with the zig-zag moulding. The chief Norman mouldings are the chevron or zig-zag, billet, beak head, nail head, etc. Corbel tables supported by corbels or grotesques constituted a crowning feature on walls and towers. The chief examples are : Keep and Chapel in the Tower of London, and Iffley Church, Oxford.

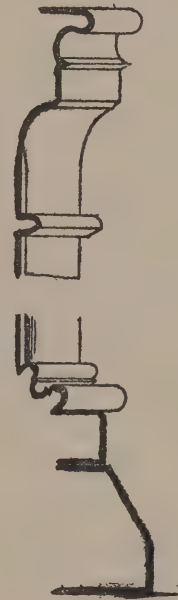
Question 5.—*Make a sketch plan of the pier of a thirteenth century nave arcade, and give sections of the arch moulding that springs from it, and of the capital and base of the column.*

Answer 5.—See Illustration.

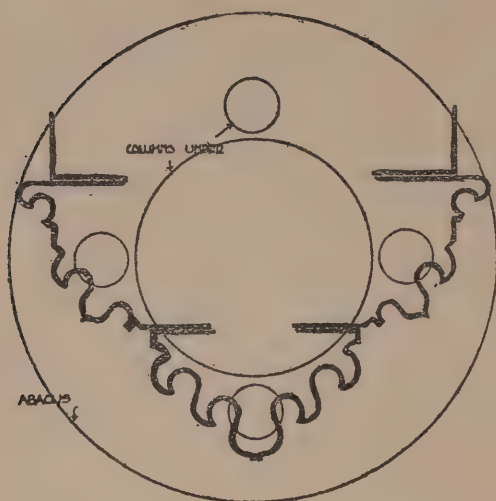
WEST WALTON CHURCH
NORFOLK



PLAN OF PIER



SECTION OF CAP & BASE



ARCH MOLD

upon the wall at all. From the underside of the tie beam at each end wall, pieces are dropped, from which spring arched braces under the tie beam and cornice, so that the whole weight of the roof is borne by the tie beam which is prevented from sagging by the curved braces. A plate is laid along the wall which receives the lower ends of the rafters, the upper ends being framed into the ridge piece (see illustration).

Question 6.—Describe, with sketches, some examples of an ornamental open timber roof of any Gothic period, and explain the nature of the construction.

Answer 6.—ROOF OVER CHANCEL, ST. MARTIN'S CHURCH, LEICESTER.

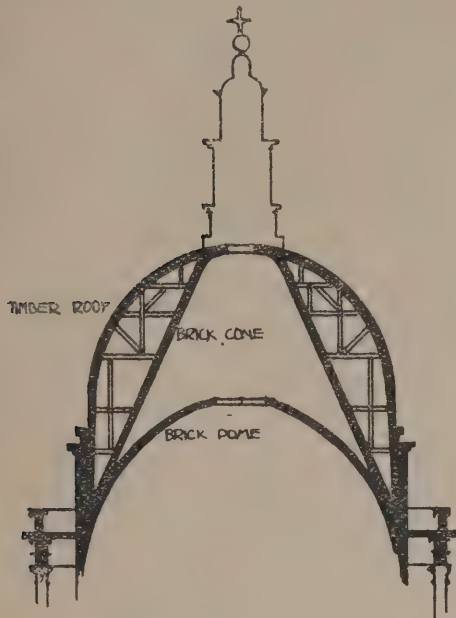
This is a tie beam roof, but without any principal rafters. A massive beam is laid across the chancel on which are supported the ridge piece and purlins, the former on a template about 3 ft. 6 in. long resting on a strut or ring post which is tenoned into the tie beam, and the latter on templates about 2 ft. 6 in. long notched on to the tie beam itself. The cornice is framed into the tie beam and does not rest



Question 7.—Describe briefly the general arrangement of the plan of St. Paul's Cathedral, and explain with a sketch section the manner in which the dome is constructed.

Answer 7.

St. Paul's is in the form of a Latin cross on plan. It is about 100 ft. wide internally including aisles, and is divided into nave with aisle either side. The nave has an apsidal termination and is divided into bays by piers ornamented with Corinthian



DOME. ST. PAULS

Question 8.—*Describe the internal decorations adopted by the Byzantines, and give a sketch of a typical piece of Byzantine carving, such as a capital of a column.*

Answer 8.—The Byzantines decorated the interior of their buildings with great magnificence, the walls being lined with costly marbles and with figures in glass mosaic. Mosaic was used in a broad way as a complete lining to a rough carcass. Architectural lines are replaced by decorative bands in the mosaic worked on rounded angles. The entire surface of the interior was covered with mosaic from wall, arch and pendentive up to the dome. The carving was executed in low relief and effect obtained by sinking portions of the surfaces. The great characteristic of Byzantine ornament as compared with Classical is that it is incised instead of seeming to be applied. The

pilasters. At the crossing of the transepts and nave a large dome is placed supported on four massive pillars. The façade is of two stories in height, the upper one being only a screen wall with nothing behind it, the aisles being only one story high. The West façade is flanked on either side by two finely proportioned towers.

The dome is surrounded at the base by a peristyle of Corinthian columns with each fourth intercolumniation filled in solid to give an appearance of stability. Above this peristyle rises the dome. It is of triple construction, the lower dome being of brick. Above this rises a brick cone and covering all is the external dome of wood covered with lead. At the base of the cone a chain encircles the dome to brace the whole together. Above the dome rises a lantern of wood (see illustration).



BYZANTINE CAP

surface always remained flat, the pattern being cut into it without breaking its outline (see illustration).

Question 9.—*Under what circumstances was Renaissance architecture introduced into this country? Give some particulars of one or two characteristic buildings.*

Answer 9.—During the reigns of Henry VII. and VIII. the decline of Gothic art began in this country. The Tudor builders gave their attention entirely to ornamental detail to the neglect of proper construction. The change of faith involved by the Reformation had its effect upon the architecture of the time, and was connected with its decay in this country. The sacking of religious houses by Henry VIII. was sufficient to desist churchmen from erecting buildings and endowing parish churches. During the reigns of Elizabeth and James I., Italian features of art were first introduced, though they were but imperfect adaptations of Roman models. These features were mixed up occasionally with the remains of debased perpendicular Gothic. This was the first introduction of Renaissance. During the reign of James I. the Renaissance style was further developed, losing more and more of Gothic tendency as Classic literature and models became better known, and the use of Classic columns with their entablatures was more and more general. Elizabethan and Jacobean which are transitional styles at length gave way before Inigo Jones and Wren. These architects are to be considered as the founders of the Anglo-Classic or fully developed Renaissance in England. *The Banqueting House, Whitehall*, by Inigo Jones, is the only part carried out of a Royal Palace, one of the grandest architectural conceptions of the Renaissance. It is 75 ft. high, and divided into two stories, having one order to each story. In this design the proportion, elegance and purity of detail mark it as one of the foremost of Renaissance buildings.

Question 10.—*Give a short description of the Mosque at Cordova, or of the Alhambra at Granada.*

Answer 10.

The Mosque at Cordova is of the simplest form of plan but of very great extent, and contains nineteen parallel avenues separated from one another by arcades at two heights springing from 850 columns. The Kibla in this mosque is a picturesque domed structure, higher than the rest of the building. The columns employed throughout are antique ones from other buildings, but the whole effect of the structure, which abounds with curiously cusped arches and coloured decoration, is picturesque and fantastic.

The Alhambra at Granada consists principally of two oblong courts. The Court of the Lions and The Court of the Alberca. The former is the richest and most beautiful. The principal entrance was at the Southern end of the Court of the Alberca. This court is 138 ft. long by 74 ft. wide, the longer sides being very plain. The end to the South terminates with a double arcade of very beautiful design, and

that to the North with a similar one, but only one story in height, crowned by the tower enclosing the Hall of the Ambassadors. This is an apartment 38 ft. square and about 60 ft. in height, roofed by a polygonal dome of great beauty, and covered like the walls, with arabesque patterns. The Court of Lions is smaller, but far more beautiful and elaborate. It is of oblong shape like the other, but has a projecting portico at each end. The one defect is that the materials are only wood covered with stucco. The shafts of the pillars that surround the court are far from beautiful, the capitals, however, are very gracefully moulded, and the pillars themselves very nicely grouped, alternately single and coupled. The arcades which they support are moulded in stucco with a richness and beauty unrivalled. At the upper end of this court is an oblong hall called the Hall of Judgment, and on either side are two smaller rooms, that "of the Abencerrages" on the North, and that called "of the Two Sisters" opposite, the latter being the most elegant apartment of the whole palace. The walls of all of these are ornamented with geometric and flowing patterns of very great beauty, but it is in the roofs that the greatest plaster decoration is apparent. Instead of the simple curves of the dome, the roofs are made up of honey-combed or stalactite patterns which look like natural rockwork. Behind the Hall of the Two Sisters, on a lower level are situated the Baths, beautiful in some respects, but scarcely worthy of such a palace.

The Society of Architects.

Examination, April, 1909.

Section II.—BUILDING CONSTRUCTION AND MATERIALS.

Subject a.—CONSTRUCTION.

WORKED ANSWERS by HENRY ADAMS, M. Inst. C.E., Examiner.

Question 1.—*A ferro-concrete foundation 7 ft. square, on light soil, is required to carry a load of 25 tons from a stanchion with a base 2 ft. 3 in. square. Draw plan and section of what you propose. Scale 1 in. to 1 ft.*

Answer 1.—See diagram 1.

Question 2.—*Draw to a scale of $1\frac{1}{2}$ in. to 1 ft. the bonding of two adjacent courses of a window jamb in a $1\frac{1}{2}$ b. wall, with $4\frac{1}{2}$ in. reveal and square recess for window frame.*

Answer 2.—See diagram 2.

Question 3.—*Sketch a small two-light Gothic window and mark the jointing of the stonework.*

Answer 3.—See diagram 3.

Question 4.—*Show by neat sketches the following joints :—tusk tenon, foxtail tenon, coggled, double notched, housed.*

Answer 4.—See diagram 4.

Question 5.—*A flat roof is to be constructed to serve as a water tank for fire extinguishing purposes with 1 ft. depth of water. Sketch out a suitable arrangement by a section through one side.*

Answer 5.—See diagram 5.

Question 6.—*Draw to a scale of $1\frac{1}{2}$ in. to 1 ft. a cross section through the head and sill of a window with 2 in. double hung sashes.*

Answer 6.—See diagram 6.

Question 7.—*Draw ($\frac{1}{4}$ in. to 1 ft.) the skeleton outline of a suitable steel roof truss for a span of 20 ft. to be covered with Countess slates, and sketch (one-quarter full size) three of the joints in detail.*

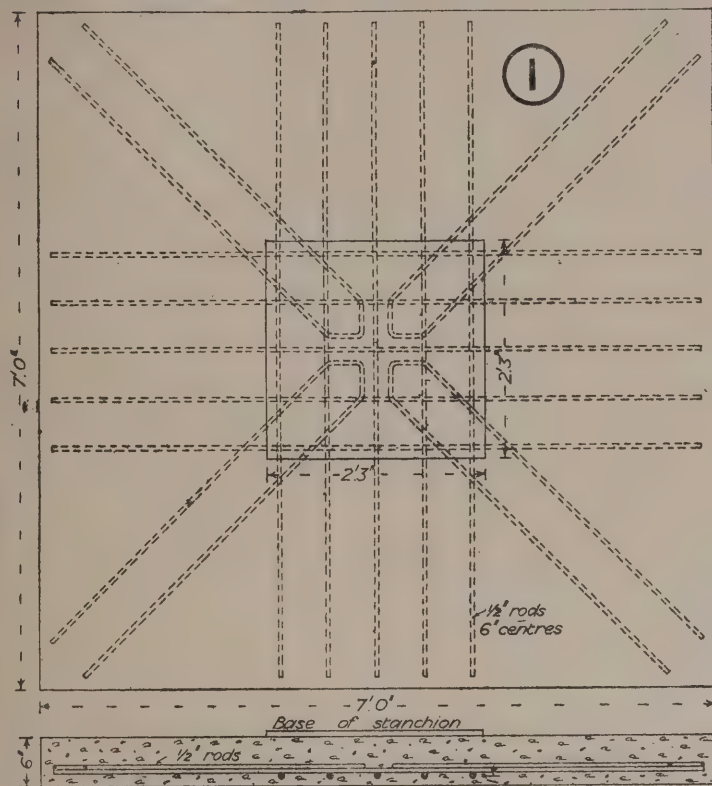
Answer 7.—See diagram 7.

Question 8.—*A girder 20 ft. span is required to carry a load of 10 tons at 5 ft. from one end, draw bending moment and shear stress diagrams and state the value of the stresses at centre of span. Scales $\frac{1}{4}$ in. to 1 ft., 10 ton-ft. to 1 in., and $\frac{1}{4}$ in. to 1 ton.*

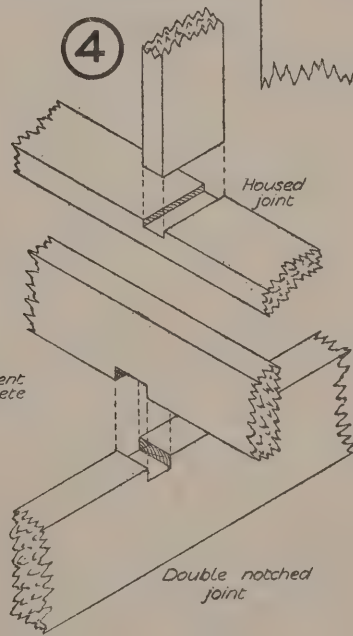
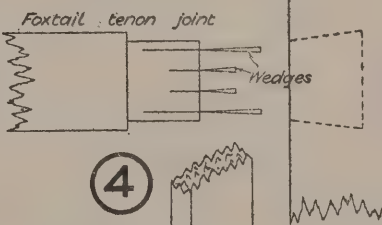
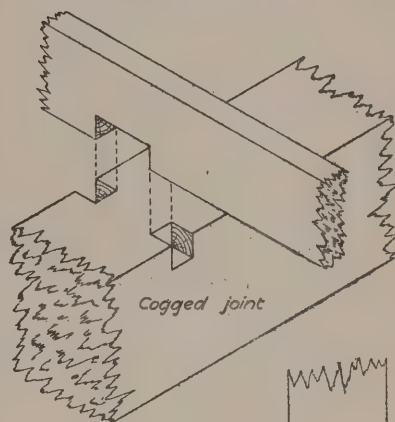
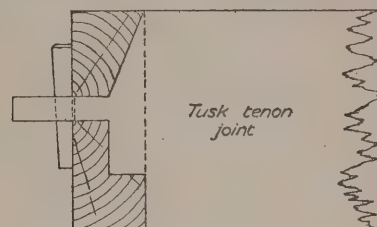
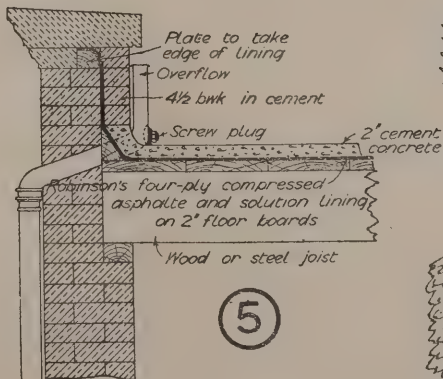
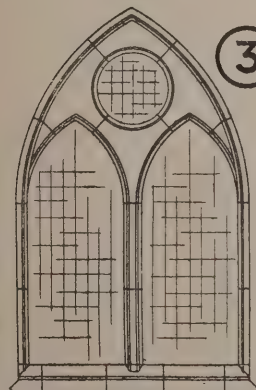
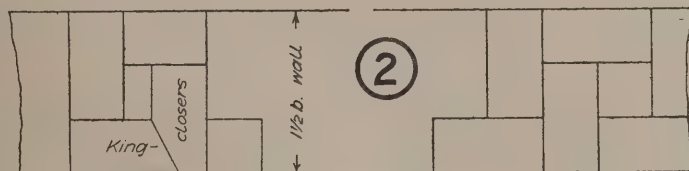
Answer 8.—See diagram 8.

BUILDING CONSTRUCTION

EXAMINATION APRIL 1909

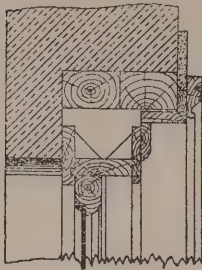


Or as alternative Expanded Metal 1 1/2" above underside

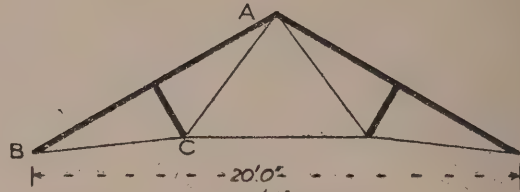
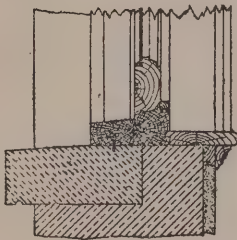


BUILDING CONSTRUCTION

EXAMINATION APRIL 1909

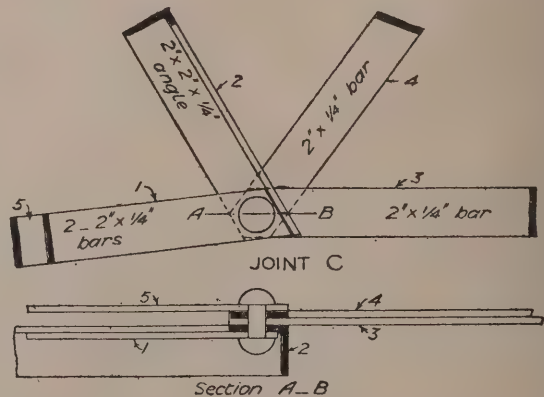
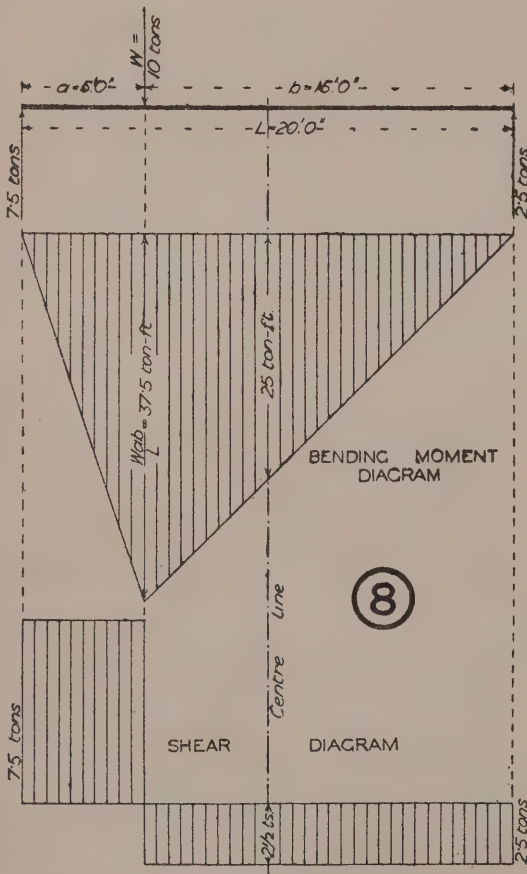
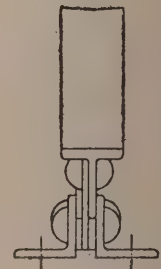
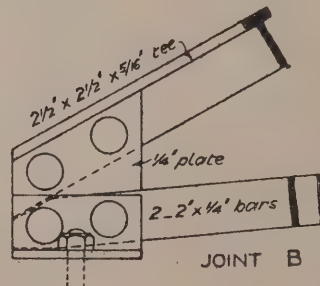
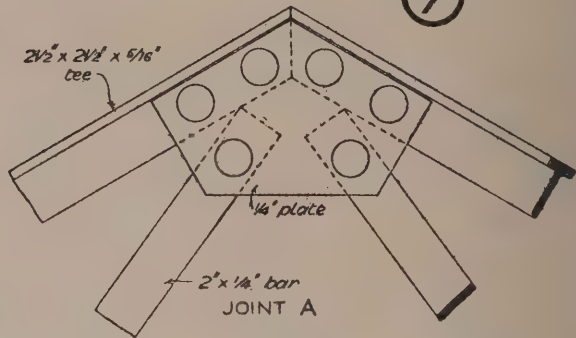


⑥



Trusses 10'0" centres
Camber 8"
ALL 3/4" rivets and bolts

⑦



The Society of Architects.

Examination, April, 1909.

Section II.—BUILDING CONSTRUCTION AND MATERIALS.

Subject b.—MATERIALS.

WORKED ANSWERS by HENRY ADAMS, M. Inst. C.E., Examiner.

Question 1.

(a) Sketch the cross section of an oak tree and show the different modes of conversion.

(b) How does oak compare with elm for use inside or outside a building.

Answer 1.

(a) See diagram 1a. Method A gives a large number of boards of varying width but irregular in the direction of the grain in cross section and therefore shrinking irregularly.

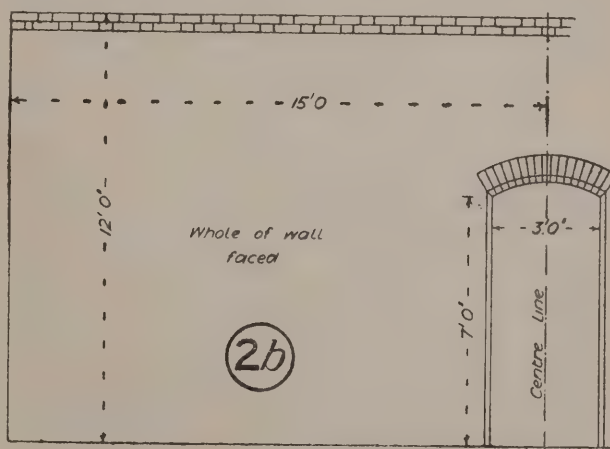
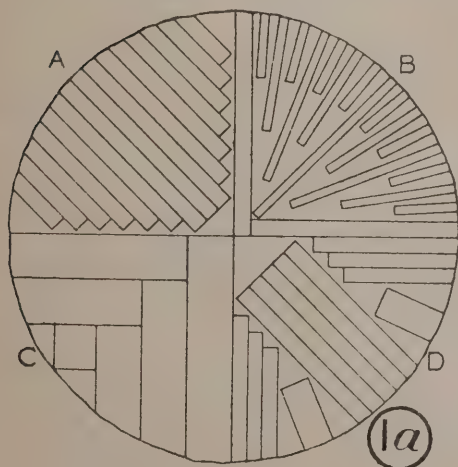
Method B gives all boards with uniform grain and maximum amount of figure or "flower." There is no waste as the triangular portions form feather-edged laths for tiling and other purposes.

Method C is the most economical way to convert the log when thick stuff is required.

Method D is the next in economy, giving mixed scantlings.

(b) Oak may be used for both external and internal work as it is hard, close-grained and of good appearance.

Elm is not very much used in building construction as it only wears well when subjected to all wet or all dry conditions, and quickly decays when subject to alternate wet and dry. It is suitable for stair treads, mangers, wheel-barrows, etc.



Question 2.

- (a) *How are white glazed bricks made.*
(b) *Write an order for the required number and description of white glazed bricks for facing a wall 30 ft. by 12 ft., to be built with an arched opening 7 ft. by 3 ft. with rounded jambs.*

Answer 2.

(a) White glazed bricks are made by "dipping" the brick, either before burning or when half burnt, into a "slip" of specially prepared clay so that a smooth face similar to china is produced. Great care must be taken in the preparation of the "slip," dipping and burning, or the glaze may crack and discoloration may also take place.

(b) See diagram 2b. Average $\frac{30 \times 2}{1.125} = 53\frac{1}{3}$, say 54 facing bricks in each course of Flemish bond, height 12 ft. of four courses to the foot, total number of bricks $12 \times 4 \times 54 - 7 \times 4 \times 5\frac{1}{3} = 2592 - 149 = 2433$, say 2500 half headers and half stretchers. For arch say $\frac{3 \times 12}{2} = 18$ bricks. For jambs $7 \times 4 \times 2 = 56$ bricks.

Order :—Best white glazed slip dipped facing bricks as under :—

- 1,250 stretchers
- 1,250 headers
- 20 bull nosed arch bricks
- 30 bull nosed quoin stretchers
- 30 bull nosed headers

(NOTE.—The quantities given allow a fair proportion for waste.)

Question 3.

- (a) *Name the beds of Portland stone in order of succession from the surface.*
(b) *Which variety of Portland stone would you use for exterior carved work. Describe its characteristics.*

Answer 3.

(a) The beds of Portland stone in order of succession from the surface are True Roach, Whitbed, Bastard Roach or Curf, and Basebed.

(b) The best variety of Portland stone for exterior carving is the Whitbed. Good Whitbed weathers well, is easily dressed to a smooth surface and will take a very fine arris, and some blocks are fit for the most intricate carving. The stone consists of fine oolitic grains, well cemented, and interspersed with a small amount of shelly matter. The colour is as a rule nearly white, but some of the best stone has a brown tint.

Question 4.

- (a) *What size fir joists would you use over a span of 16 ft. for a dining room. Show how you arrive at the size.*

(b) *What do you understand by the Modulus of Elasticity.*

Answer 4.

(a) The rule for size of floor joists for ordinary purposes is depth in inches = $\frac{1}{2}$ span in feet + 2, and breadth = $\frac{1}{3}$ depth. In the given case the size would be $\frac{16}{2} + 2 = 10$ in. by $\frac{10}{3} =$ say $3\frac{1}{2}$ in., but the size adopted would probably be 11 in. by 3 in.

(b) The modulus of elasticity is a number representing the ratio of the intensity of stress to the intensity of strain produced by that stress, so long as the elastic limit is not passed.

$$E = \frac{\text{stress}}{\text{strain}} = \frac{\text{tension or compression} \times \text{length}}{\text{area} \times \text{elongation}}$$

Standardisation of Stoneware Pipes.

The Council of the Royal Sanitary Institute have appointed Mr. Henry Adams, M. INST. C.E., F.S.I., etc., to represent the Institute at the Conference which is being organised by the Engineering Standards Committee to consider the desirability of a standard being adopted for stoneware, fireclay and other similar pipes.

The Council of the London Chamber of Commerce at their meeting on the 10th inst., elected Mr. Henry Adams, M. INST. C.E., F.S.I., etc. (Henry Adams and Son, 60, Queen Victoria Street, E.C.), a Member of the Arbitration Committee of the Chamber in addition to the Engineering Committee, of which he has been a Member for some years.

Mainly about Members.

MR. F. STEWART INGLIS has taken a Commission in the Territorials, as a Lieutenant in the 1st Brigade Royal Field Artillery.

A United Methodist Church has been built at Blackwell. The work has been carried out from the designs of MR. G. WALESBY DAVIS.

One of the exhibitors at the Royal Academy this year is a MR. J. T. WESTBYE, the winner of the special prize in last year's Travelling Studentship Competition.

■ The design submitted by MR. G. WENYON and C. H. Potter, of Dudley, has been placed second in the Middlesbrough Public Library Competition, out of over 200 competitors.

■ Extensive alterations and additions are being made to North Warne Farmhouse, Marytavy, near Tavistock, under the direction of MR. M. B. COLLINS, architect, Redruth.

In a limited competition instituted by Messrs. Chance & Hunt, Ltd., for a model village near Stafford, the design placed second (£20 premium) is by MR. GEO. H. WENYON, Dudley.

The Education Committee of the Salop County Council have accepted the design submitted in connection with the above competition by MESSRS. DICKENS-LEWIS and HAYMES, architects, Shrewsbury.

MR. FREDERICK RINGS has accepted the honorary appointment of Architect to the German Protestant Church and Schools, Whitechapel, which was held by the late Mr. E. A. Greening, F.R.I.B.A.

Premises have been erected for the banking firm of William Deacon, Ltd., at the corner of Stephenson Place and Cavendish Street, Chesterfield. The architect for the work was MR. W. CECIL JACKSON, of Chesterfield.

The Tower of the Parish Church of St. Nicholas, Partney, has been restored at a cost of £785. The work of restoration was satisfactorily accomplished under the direction of the architects, MESSRS. C. & A. BASSETT-SMITH.

The new Methodist Church at Blackwell, near Darlington, which has been erected at a cost of £950, was recently opened. The new Church will seat just over 100 people. The architect is MR. G. W. DAVIS, Tubwell Row, Darlington.

Work was begun about a month ago on the erection of new church schools at Staplehill, Bristol. They have been designed by MR. R. S. PHILLIPS, architect to the Gloucestershire County Education Committee. The price for the work is £4,530.

MR. KERSHAW PETERS (Student) was the winner of the second prize for a design for a simple building to accommodate 200 people, in the competitions held in connection with the lectures recently delivered at Carpenters' Hall, on the art connected with building.

The General Building Committee of the proposed new Buildings for the Llanelly Y.M.C.A. have decided to send out contracts for the immediate construction of the Building. The first part of the contract will, it is anticipated, amount to £4,000. The architect is MR. W. GRIFFITH, Llanelly.

A Local Government Board enquiry has been held respecting a loan of £500 for the purchase of certain premises in Swallow Street, Bath, as a site for extension of Engine House at the Baths. The extension scheme was not fully prepared; but plans have been prepared by MR. A. J. TAYLOR.

The Governors of the Llangollen County School are considering proposals for the enlargement of the School Buildings. A scheme, submitted by MR. WALTER D. WILES, the County Architect and Surveyor, has been generally approved by them, and a Committee has been appointed to consider details.

MR. ELLIS MARSLAND, hon. Secretary, is one of the members of a special commission of the British Fire Prevention Committee which has been visiting Berlin to study matters relating to the prevention of fire in Northern Germany, and to report thereon.

The Congregational Church at Llanhilleth has been re-opened after enlargement and reconstruction. The building contract amounted to £1,707, and the work has been carried out from the plans and under the superintendence of Messrs. Habershon, FAWCKNER & Co., architects, of Newport and Cardiff.

The governors of the March Grammar School recently invited competitive designs for a new school from J. W. Little of Tunbridge, H. J. Green of Norwich, and J. G. STALLEBRASS & SONS of Peterborough, the latter ultimately being selected. The work is to be proceeded with at once.

New offices have been built by the Manchester and County Bank on a site in Deansgate, Bolton. The work has been carried out from the plans of MESSRS. MILLS & MURGATROYD, architects, Manchester. The flooring has been constructed on Kleine's patent.

The council of the London Chamber of Commerce has elected MR. HENRY ADAMS, M. INST. C. E., F.S.I., etc. (Henry Adams & Son, 60, Queen Victoria Street, E.C.), a member of the arbitration committee of the Chamber, in addition to the engineering committee, of which he has been a member for some years.

A new Wesleyan Church is being built on a site in Claremont Road, Wallasey. The building, which will be erected of Helsby stone, will, when completed, cost £9,300, and will provide seating accommodation for 750. In addition, Sunday School premises for 300 scholars will be included in the scheme. The architect of the Church is MR. STANLEY ELLISON.

The marriage of MR. ALFRED J. CORNELIUS, architect, Truro (successor to the late Mr. Silvanus Trevail), son of Mr. and Mrs. John Cornelius, of Tower House, Teignmouth, and Miss Olive C. A. Trounce, only daughter of the late Mr. W. P. Trounce, of Tregongon, St. Veryan, and Mrs. Trounce, of Longfield, Perranwell, took place in Perranarworthal Church last month.

The foundation stone has been laid of a Secondary School at New Scarborough, Yeadon. The Building is from the designs of MR. WM. BROADBENT, of Leeds and Horsforth, whose plans, in competition with 60 or 70 others, were awarded the first prize of £35, offered by the Governors. The School is to accommodate 200 scholars (118 girls and 82 boys), and the total cost will amount to about £16,000.

Mr. Vickers Edwards, County Architect for the West Riding of Yorkshire, in conjunction with Mr. A. V. Houghton, Principal of the Secondary Education Department of the County Council, having delivered their report on the designs submitted in this competition, the Council has accepted that sent in by MR. W. S. BRAITHWAITE, of 6, South Parade, Leeds. The Building is estimated to cost £12,000.

The opening has taken place of the new Tonysguboriau School at Llantrisant. The School, built at a cost of £3,875, has accommodation for 208 scholars. It was designed by MR. PUGH JONES, County Architect, who also designed the School, with accommodation for about 150 children, erected by the Penarth Group of School Managers in Eastbrook Road, Dinas Powis. The building has cost about £2,500.

Out of a number of designs submitted in competition for the completion of the tower and spire at the Rawcliffe Street Wesleyan Church, South Shore, that submitted by Messrs. Herbert Wade and W. B. WALTON, joint architects, of Birley Street, Blackpool, has been accepted by the committee. The work is to be proceeded with at once. Mr. Walton was the winner of the Travelling Studentship last year.

A new Wesleyan Church is to be built at Yealmton, Devon. The Building is to seat about 250 persons, whilst a School will accommodate about 140 children. There are classrooms, minister's vestry, and the usual sanitary and domestic arrangements. The Building will be of local limestone, faced with buff brick. The contract price is £1,090; and the architect, under whose supervision the work is being executed, is MR. F. A. WIBLIN, of Plymouth.

The new St. John's Church, Wrexham, is to be built of Cefn stone, and will consist of a nave of four bays, with narrow ambulatories for aisles, and a clerestory with traceried windows. A barrel-vaulted ceiling, a carved oak chancel screen, oak chancel fittings, oak chair stalls, and an oak pulpit are included in the scheme. The Church will seat 400 people, and will cost £6,210. The architects are Messrs. Prothero, PHILLOTT, and Barnard, of Cheltenham.

At the meeting of the St. Pancras Guardians, the North Infirmary Visiting Committee brought up a report recommending that MR. A. E. PRIDMORE be engaged to supervise the necessary decorating and repairs estimated not to cost more than £500 this year. An amendment was moved to the effect that the Committee be requested to invite applications from architects and others in the Borough to do the work. In the result the amendment was lost, and the Committee's recommendation carried.

The foundation stone has been laid of the new buildings of Brentwood Grammar School. At present only about half the full scheme is being proceeded with. This comprises the south and east blocks accommodating about 100 scholars, in addition to the rooms appointed for the masters' use. When the remaining blocks are built the accommodation will be practically doubled, and in addition there will be a large assembly hall on the ground floor. MR. WYKEHAM CHANCELLOR, architect, is responsible for the plans.

A new hotel at Hardway, Gosport, is to be erected for Messrs. Brickwood & Co. It is proposed to be called the "White Heather," and is situated at the junction of Priory Road and Green Lane. The ground floor consists of a spacious public bar, bottle and jug department, large tea and refreshment room, bar parlour, private entrance hall, kitchen, scullery, public and private offices. The upper floors afford the accommodation of a large club room, seven bedrooms, bath room and w.c., while the basement has good cellar accommodation. The architect is MR. HARRY A. F. SMITH, of Gosport.

A skating rink is to be erected at Southend-on-Sea. The Company have obtained an excellent site in the centre of the town, within one minute of both railway stations, and with the trams from all parts of the district passing the main entrance. The rink will be 180 feet by 80 feet, with a spacious promenade all round in addition, and will be fitted with all the latest improvements. Shops are to be erected on part of the site. The scheme is estimated to cost £7,000, and plans have been prepared by MESSRS. CABUCHE & HAYWARD, of Queen's House, Westcliff, and 18, Eldon Street, E.C.

Prof. HENRY ADAMS, M.INST.C.E., &c., of 60, Queen Victoria Street, London, E.C., has taken his eldest son, Mr. Henry Charles Adams, A.M.I.C.E., A.M.I.M.E., A.M.I.E.E., &c., into partnership with him in his practice as a Consulting Engineer and Surveyor, under the style of Henry Adams and Son, at the above address; their Birmingham office being at 1, Waterloo Street. After serving articles to his father some 18 years ago, Mr. Henry C. Adams migrated to Birmingham, where he was engaged as a special senior engineering assistant in the service of the Corporation of that city, and in various other public and private appointments.

The church of St. Mary, West Langdon, which was destroyed by fire on October 31st, 1906, has been rebuilt. Practically all that remained of the building were the four walls, and in places these even were badly damaged. In the rebuilding the bases of the old side walls, which are of flint were used, but it was found necessary to replace the stonework of the windows. The two end walls were practically rebuilt. The chief addition to the structure is a lean-to porch, which replaces the old interior lobby. The work has been carried out under the direction of the architects, Messrs. JENNINGS and Duthoit, of Canterbury and Dover.

A new Wing has been added to Hampton Grammar School. The building consists of an assembly hall, classrooms, common room, cloakrooms, lavatories, and changing rooms. The existing school has been remodelled with regard to classroom accommodation, and now provides nearly 300 students' places. The chemical laboratory has been extended and refitted, a new system of heating installed, and a manual training centre for teaching woodwork is provided. The work has been carried out from plans prepared by, and under the supervision of, MR. H. G. CROTHALL, Architect to the Middlesex Education Committee and the Governors of the Grammar School. The contract price was £5,168.

The new Magnus Grammar School at Newark, which was recently opened by Lord Belper, has cost over £16,000, and was designed by Messrs. Sheppard and LOCKTON, architects, of Newark. The buildings, which have been in course of erection for about sixteen months, provide accommodation for 150 boys including 30 boarders, and comprise, besides the usual school accommodation, art room, chemical laboratories and lecture room, library and common room, sick bay, etc. The heating is by low pressure hot water, mechanical ventilation is employed, and incandescent gas is used for artificial lighting. The elevations are carried out in light buff bricks with red brick dressings and the roofs are covered with red tiles.

A new Freemasons' Hall is being erected in Hunter Street, Chester, at a cost of about £3,000. The Building will be built of Ruabon pressed bricks, with Cefn stone dressings. The floor of the entrance hall will be of marble. The principal rooms will be the lodge room and banqueting room, each 45 ft. by 35 ft., but the latter will be capable of extension, and will have a spring floor. There will also be four smaller rooms. The kitchen accommodation is on most modern lines, while there are to be well-appointed lavatories on each floor. The premises are to be heated by hot water. The basement will be available for conversion into either a large billiard room or club room. The Building has been designed by MR. ARTHUR F. DAVIES (Messrs. J. H. Davies and Sons).

MR. J. W. B. BLACKMAN has been appointed city engineer for the city of New Westminster, British Columbia, the third largest city in British Columbia, having a population of about 20,000. The City is on the Frazer River, and is connected by a large steel bridge costing over a million dollars. New Westminster was the old capital of British Columbia. The following Government offices are in the City:—Land Registry Office, Office of Mines, etc., Crown Timber Office, Dominion Engineer Office of Indian Affairs and Fisheries, Dominion Land Office, etc. A fine electric car service is run in the City and to Vancouver. The Canadian Pacific Railway and Great Northern from the States have stations in the City. The industries are chiefly lumber, and saw mills, salmon fishing, canneries, etc.

A new higher elementary school and pupil teachers' centre have been erected at Belper. They are of stone from Mr. Strutt's quarry in Red Lane, Makeney, with dressings of Matlock stone. The roof is covered with Westmorland green slates, and the windows have iron casements and lead glazing. On the ground floor are five classrooms for boys and girls, each accommodating forty scholars, with cloak-room and lavatories. For the pupil teachers there are four class rooms, each accommodating thirty, with cloakrooms, etc. A large central hall will be common to the two departments. Rooms have been provided for the teachers, art, science, etc. The principal block has on either side a cookery centre and a manual training centre. The buildings have been erected to plans prepared by MESSRS. HUNTER and WOODHOUSE, Belper.

In Queen's Road, Hersham, adjoining Walton-on-Thames, a new Congregational Church is being built to accommodate 400 persons, at a cost, including the site, of £3,000. The problem facing the architect, MR. ALEX GORDON, was to obtain the maximum accommodation with the minimum cost, consistent with the requirements of the vicinity and site, and it is considered that this has been admirably achieved, and the building will form an economical and picturesque structure. The style is Late Gothic, and the plan is arranged with nave and side aisles. The external walls are faced with purple bricks, with Costessy ware dressings, and the roof will be covered with tiles. The Church will be heated by low-pressure hot water, and the artificial illumination will be effected by incandescent gas lighting. Particular attention has been given to ventilation.

Annual General Meeting.

The Twenty-fifth Annual General Meeting of The Society of Architects will be held at Staple Inn Buildings (South), Holborn, W.C., on Thursday, October 14th, 1909, at 8 p.m.

Agenda :—

1. The President to take the chair.
2. Minutes of the last Annual General Meeting.
3. Nominations for Membership.
4. Announcements.
5. Ballot for candidates for Membership.
6. Council's Annual Report.
7. Election of Officers and Council, 1909-10.
8. Votes of thanks.

Correspondence.

To the Editor of "The Journal of The Society of Architects."

Travelling Studentship.

SIR,—A slight mistake occurred in your account of the above. It was stated that I was an assistant in the office of a Mr. Sheppard. The mistake arose owing to a Mr. Sheppard, who is my immediate principal in the L.C.C., signing the declaration testifying that the design was my own exclusive work.

I should esteem it a great favour if you would insert in the Journal that I am an assistant in the Education Department of the London County Council.

29, Bridge Avenue Mansions,
Hammersmith, W.,

June 5th, 1909.

I am Sir, yours faithfully,

G. LLEWELLYN EVANS.

Meetings and other Fixtures of the Society.

Subject to such alterations and additions as may be announced from time to time in the "Journal" or by circular.

- July 5th to 10th. Exhibition of Students' Drawings, Municipal School of Art,
„ 17th. Sketching Party to Merstham. [Birmingham.
„ 22nd. Society's Visit to Messrs. Lawrence's Works, Bracknell.
Sept. 2nd. Council Meeting. House List, 1909-10, etc.
„ 11th. Students' Sketching Party (place to be announced).
„ 21st. Entries for Home Examination close.
Oct. 1st. Last day for submitting result of Travelling Studentship Tour.
„ „ Last day for receiving nominations for Council.
„ 5th, 6th, and 7th. Examinations for Membership.
„ 14th. Twenty-fifth Annual General Meeting.

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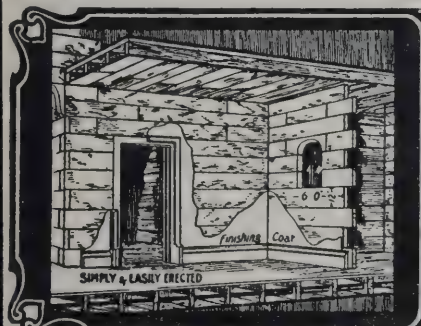


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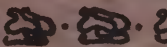
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
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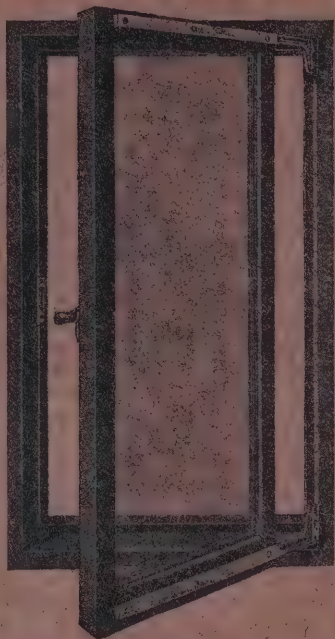
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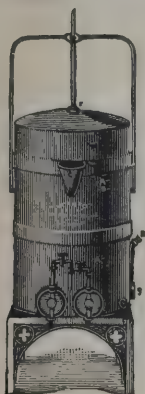
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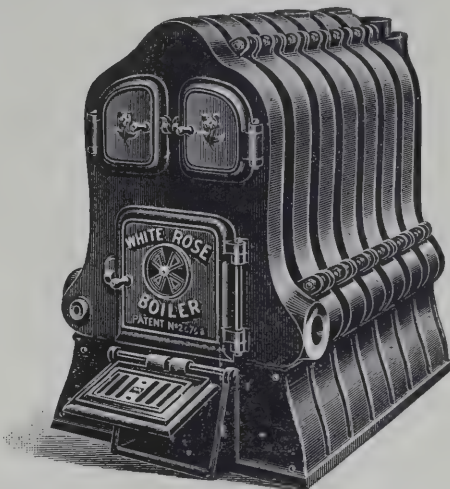
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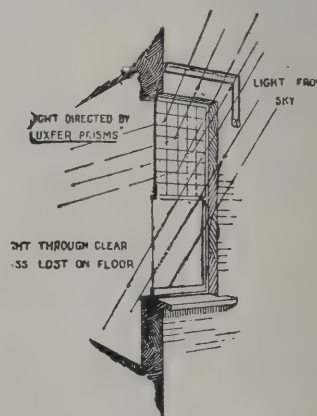
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[New Series.]

The Society is not, as a body, responsible for the opinions expressed by individual authors and speakers.

Sketching Party to Gatton and Merstham.

The visit to Gatton and Merstham, on Saturday, July 17th, was not quite as successful as the previous sketching visits in point of numbers owing to the fact that many of our most ardent sketchers are away holiday-making. On arriving at Merstham the party set out for a delightful walk across the fields to Gatton Park, the seat of Sir Jeremiah Coleman. There the party viewed the curious little Doric structure in the grounds which was at one time used as the town hall and is the smallest town hall in England. The residence was next visited. This is built in a severe classic style with an adorned Portico in the Corinthian style. The most striking feature of this house is the hall which is built and paved in a variety of costly marbles. The church which adjoins the house is but a small structure and with its beautiful trees and shrubs which surround it forms an exquisite subject for a colour sketch. But the interior is full of interest being adorned with carvings of wonderful workmanship. Many sketches were made but the lovely view and beautiful flowers of the gardens which surround the house proved irresistibly attractive to the majority of the party. Tea was served in Merstham, and afterwards a saunter through the village to admire the ancient house and church concluded a really well-spent afternoon.

Henry Saxon Snell Prize Competition.

The Royal Sanitary Institute have appointed Prof. Henry Adams, M.INST.C.E., F.S.I., Dr. Louis C. Parkes, M.D., D.P.H., Prof. W. Napier Shaw, D.SC., M.A., F.R.S., and Mr. A. Saxon Snell, F.R.I.B.A., as the adjudicators for the next "Henry Saxon Snell Prize Competition," the subject set being "The Principles of Heating and Ventilating Public Buildings." The essays have to be delivered at the Institute, 90, Buckingham Palace Road, by the 31st August.

Visit to Messrs. T. Lawrence & Sons' Brickworks.

Some thirty-five members and students assembled at Wokingham, on July 22nd, on the kind invitation of Messrs. T. Lawrence & Sons, for the purpose of seeing the process of manufacture involved in the production of bricks and tiles. The London contingent left Waterloo at 10 a.m., a saloon being reserved for their accommodation, picking up Messrs. A. and H. Lawrence at Bracknell, and meeting the remainder of the party at Wokingham. Brakes were waiting to convey the members to the works at Wokingham, and on arrival the party divided and each under the guidance of a member of the firm made a tour of the premises.

Some six years ago some splendid earth suitable for making bricks by machinery at a very cheap rate, and at the same time producing them of a first-rate quality and splendid colour, was discovered at these works. The clay for these bricks is ground to the finest powder before being made into bricks, and a pressure of at least 60 tons is put upon every brick. The crushing strain of these bricks as given by Messrs. Kirkcaldy & Son, is over 220 tons per square foot.

The peculiar nature of the clay enables these bricks to be made all the year round, therefore the largest jobs can depend on a sure supply even in the winter and spring of the year, when there is, in some years, great risk of good facing bricks being exceedingly scarce.

These are the cheap machine-made facings and not the rubbers, which are made at Swinley. These bricks weigh 3 tons per 1,000, and are made 9 by $4\frac{3}{8}$ by $2\frac{5}{8}$ in., and will therefore work with any of the hand-made facings.

The T.L.B. Rubbers and Cutters manufactured at the Swinley Works are made from a deposit of clay found in the middle of the Bagshot Sands, and from which these bricks derive their beautiful colour. The quality of a Rubber brick can only be tested and judged when it is being cut or rubbed, and the greatest possible care is taken in selecting the earth most suitable for this purpose. Every particle of this selected earth is washed to a slurry by the most improved and powerful machinery, and passed through numerous very fine screens, thereby enabling us to supply bricks of such a texture that they can be worked to a remarkable fine face or to a very sharp and true arris at any part of the brick. This result is achieved partly from the peculiar mode of preparing the earth, but chiefly from the fact that the clay used for the T.L.B. Rubbers requires no admixture of sand or any other material, thus facilitating the production of that perfect homogeneity in the Rubbers without which they could not be used for the high-class work to which they are applied. These two facts also give to the Rubbers the most desirable quality of quickly hardening by exposure to the weather, for although when first made, and before they are allowed

to get at all wet, they are so easy to cut that joiners' tools are used for the purpose, The weather can never damage them in the slightest degree, but they will resist all action of the very hardest frost ; even elaborate projecting cornices cut from these bricks need never be covered with lead or other weathering material.

By the time the visitors had thoroughly inspected the various processes, it was nearing the luncheon hour, and as there was much to see elsewhere the journey was continued by brake through some five miles of beautiful scenery until Bracknell was reached. Luncheon was served at the Forest Hotel, which by the way possesses some beautiful gardens, and before leaving, an opportunity was taken by Mr. Percy B. Tubbs, F.R.I.B.A., Vice-President, of conveying the hearty thanks of the members to Messrs. T. Lawrence & Sons for their kindness and hospitality. Needless to say this sentiment was heartily endorsed, and Mr. H. Lawrence, who presided, expressed the pleasure which it gave them to welcome architects to their works.

After an all too brief interval spent in the gardens, a start was made for Swinley which was reached after a very pleasant drive.

An opportunity was afforded members of trying their skill at moulding a brick with the hand machine, one of those simple operations which requires constant practice to successfully undertake. The fact that one of the necessary qualifications for an architect is not that of producing a perfect brick at the first attempt, was successfully demonstrated by a prominent member of the party.

Having seen all that it was possible to see in the limited time at their disposal, the drive was resumed, and the party returned to Bracknell for tea. Afterwards a few minutes was devoted to seeing specimens of tiling, particular attention being drawn to some roofing tiles, weathered and roughened by a patented process, to resemble old work.

Leave taking was then the order of the day, and having once more expressed their appreciation of the courtesy extended to them, the party proceeded to the station and entrained for town, which was reached at 9 p.m.

The weather was most favourable for outdoor proceedings and the visitors were favoured with long intervals of sunshine and no rain. Everything possible was done for the comfort and convenience of the members, and the visit proved one of the most successful of its kind which the Society has undertaken.

Safe Methods of Distributing Electrical Energy in Buildings.

Mr. Arthur Pordage, Firemaster of Edinburgh, in a paper read at the Fire Brigade Officers' Congress in London, in June, expressed the view, based on personal experience, that wood casing has advantages over metallic conduits in buildings where both electricity and gas are installed.

The metallic conduit has not, he thinks, fulfilled anticipations, and has introduced an unforeseen element of danger, not confined to the building in which it is installed, but which may be communicated by means of girders, columns, or water and other pipings to adjacent buildings.

It is impossible to avoid metallic contact with electric conduits, more especially in modern buildings where steel or iron and concrete form such large factors. A leakage on to iron girders or columns may travel through a building from top to bottom, or from one building to another before it gets to earth, or before it is picked up by a gas pipe, and thence conveyed to earth.

Many fires have been caused by such short circuiting of electric conduits on to gas pipes, or by leakage on to water pipes thence to gas, by girders on which gas pipes are in contact, by nails or staples bridging the current through joists or partitions, leakage of current from conduits on to damp walls thence on to gas pipes or brackets, the factors in each case being the conducting power of the metallic tubing.

It is difficult to suggest a remedy for the leakage of current on to the metallic conduits owing to the many breakdowns due principally to the conduit itself.

Theoretically the metallic conduit should be the safer system; tubing faultlessly earthed is a perfect method of distributing electric current. A properly earthed tube is so reliable to carry off a leakage of current as to admit of a gas pipe being run in close contact with it; but, when it is possible for the current to get an easier earth by the gas pipe, and the two are separated by sufficient space to admit of a short circuit taking place, or when the space between the two pipes is bridged by a nail or any other metal conductor, an arc is formed and the gas momentarily ignited.

If it were possible to avoid the introduction of gas in the building or adjacent buildings, a leakage on to the tubing need cause the consumer no anxiety beyond the fact that the escaping current was passing through by his meter.

There seems to have been no really valid reason why wood casing as a conduit should have been almost entirely abandoned; perhaps it was in a large measure due to the very slovenly manner in which cheap and badly fitted casing was run, and to the assumption on the part of some people that all wood under any conditions is highly inflammable.

In advocating the use of wood casing as against metallic conduits, experience demonstrates the fact that wooden conduits are perfect non-conductors, that the rubber insulation is better preserved in the wood than in the tubing; there is an

entire absence of condensation in the conduit and a "short" from the conduit can only occur by the introduction of a conductor, foreign to the installation, such as nails, screws, etc., being driven through the casing on to the wires.

The trouble caused by wood absorbing water could be largely obviated by coating the casing with shellac varnish; the difficulty caused by the curling up of the edges of the capping would be overcome if the sides of the capping were screwed at the sides instead of in the centre only. A great advantage in favour of wood casing is that the wires are laid in and not pulled through, whereby the insulation is maintained intact, thereby removing one of the most frequent troubles met with in tube conduits. By removing the capping, wires are easily get-at-able, facilitating renewals or extensions—an almost impossible operation with the tubes. Short circuiting of wires is avoided if the groove is of sufficient diameter to take the wire only; with neat hard wood casing the space required for conduit runs need not be necessarily thereby increased.

The capping should be checked and so fitted as to almost entirely exclude air spaces, thus retarding the spread of fire from burning insulation after the fuse has blown. When a "short" takes place between two wires in casing, and fires the insulation and the casing, the fire is easily located, whereas in the case of metallic conduits the fault which has caused the arcing on the gas pipe is generally very remote from the point of fusion.

Experience has proved that from the danger point of view wood casing, though in itself inflammable, is safer than the metallic tubing which, though non-inflammable, forms a ready conductor of electricity and consequently of fire throughout buildings. There is no reason why wood casing should be offensive to the eye; it can be used with very artistic and decorative effect, the capping can be made to harmonise with the other wood fixtures and mouldings, whether of oak, mahogany or other decorative wood. It is a very good non-conductor and preserves the cable insulation as no other conduit system does.

The principal defects due to the wood conduit system are such as can almost always successfully be guarded against; but with this as with all other systems, workmanship forms a most important factor. The mere fact that a highly resinous wood is inflammable does not necessarily imply that all wood is similarly inflammable. A hard wood casing would take some time to get thoroughly well alight, the fire being easily located and above all restricted (the locality of the fault is not communicated by the conduit to several inaccessible parts of a building at the same time); it can be run under or on the side faces of iron or steel girders in such a manner as would spell disaster in the case of metallic conduits.

The success and popularity of electric installations depends upon the means adopted to distribute the current, which should not be the simplest or the cheapest, but the most effective; and architects might consider the provision in all buildings of channels for running electric mains and conduits.

Characteristic Architecture for India.

A Plea for the Saracenic form.

We begin by asking, says *Indian Engineering*, when we hear unstinted admiration expressed for an Indian building what class of architecture, as a rule, does that building represent? We have fairly good examples of every prevailing style scattered over the country, and there are not a few admirers of each one, for architecture is essentially a subject on which wide differences of opinion exist. We think indeed there is less scope for divergence of view on a master-piece in painting, or an inspiration in music than on a conception in architecture. The mind with a bent for the gloomy and the mystic will see no beauty outside the severe forms of Egyptian and Hindu art whose stern grandeur was intended to express solemnity and awe, the eye formed for exact symmetry and proportion will be attracted by nothing but the refined beauty of Grecian forms, the soaring spirit will seek satisfaction in the unrestricted freedom of Saracenic and Gothic art, the practical soul with a genius for economics will find no charm but where each ounce of material before him is doing an obvious economic duty. And who will say that any of these is without the architectural instinct? The truth is that with the expansion of the centuries, there has been an expansion of knowledge, of occupation, and of tastes; where a nation thought for the most part in one channel it now thinks in many channels; where it thought and spoke in one language it now thinks and speaks in many. Its artistic expression must therefore be necessarily more varied; and with a wider architectural horizon and a cosmopolitan outlook it is not likely to abandon for a new form of expression the best of the old ones which have by now been blended with its history and sanctified by time. There is place, therefore, for a perpetuation in the future of the great architectural styles of the past in all their purity.

But it might still be asked, Is not some one of these styles, modified perhaps by modern requirements, to become the prevailing one in India? to be the model for all our ordinary domestic architecture, our minor industrial and official structures, for all our buildings, in short, that do not claim to be of monumental character? Are we to continue indefinitely to erect in our large cities, as we are erecting now, a semi-Roman mansion flanked by a Renaissance one, which again is flanked by what may (or may not) be a Byzantine presentment? There is really no reason why we should; and if this country were not so bereft of true architects the day would soon arrive when our principal streets would have façades worthy to behold. Let any unprejudiced person move leisurely along one of the old narrow highways of, say, Lahore city, or Agra city, and ask himself if he does not see in it more congruity of design, more architecture in fact than is to be found along the whole mile of

Chowringhee frontage, Ask him when he has left it if he does not feel he has seen more of India and the spirit of India there than in the best boulevards of Calcutta and Bombay. If he has made this pilgrimage in the spirit of the architect he will himself ask why the pretentious boulevard could not have copied the humble highway. The latter has expressed the life of India and is in harmony with its native genius and atmosphere. The boulevard has attempted to reflect the spirit of an exotic civilisation six thousand miles away and stands self-condemned.

We return now to the question with which we opened, and we answer that if India is ever to have a characteristic architecture of its own it must be some form of the Saracenic we all so much admire when we see it. Egyptian and Hindu forms are completely out of touch with modern life; the Grecian orders, a great advance on these, are still too severe and formal for every-day use, though they might fitly be employed in structures like a Senate Hall, even a Town Hall or Council Chamber where the surroundings harmonise. The Roman modifications of the Grecian orders bring us still nearer to modern life, and can fitly be used for many public edifices. Modern Italian and Renaissance are excellent as isolated residences placed in ample grounds and dignified surroundings. Gothic is appropriate even in India for ecclesiastical and scholastic buildings. But for every-day purposes Saracenic seems the most appropriate in an Indian setting. We have noble examples in India to copy from; but we need not copy the defects of the style along with its beauties. Our advanced knowledge of hygiene can show us the way to ventilate our buildings better than the Saracens, and our engineering skill can teach us to reject what is cumbrous and unnecessary, to strengthen what is too slender for stability. In the hands of the true architect, indeed, Saracenic would be quickly and easily adapted to all our modern wants, would become a hand-maiden beautiful to behold, and remain withal a true expression of Indian art.

The Perfect House.

Some Useful Hints.

Mr E. Swinfen Harris, F.R.I.B.A., in an article published in the *R.I.B.A. Journal*, says :—

Things seen can usually take care of themselves, while things that are buried cannot even crave our attention till trouble comes. The reverent removal of our dead is often made well-nigh impossible for want of a little forethought over our plan. The injudicious placing of doors and windows frequently renders a comfortable fireplace an unattainable pleasure in many a well-intentioned plan. A staircase is often made inconvenient, and sometimes even dangerous for all time, by the attempt to save two or three additional steps : the false economy of “winders” with regard to carpets and coverings is well known. The ingle-nook is a useful, and may be a beautiful, feature when large and deep enough to hold at least four people comfortably ; but, like the vane that does not indicate the path of the wind, is “a vain thing” when, as neither a cosy nor a useful nook, it is found to be a mere toy.

Aspect is more important than prospect, if it be impossible to secure both. You may go out and enjoy your view, if any, but you cannot shift your house from a cold quarter when the view is only obtainable from a window situated in the teeth of a bitter wind or a driving rain.

If low rooms are preferred—and they may be excellent—see that the ample area of them makes such amends that inmates are not deprived of their due in breathing space. Great or small, a house should be as good as possible for the means at command. Whether the plan be based on the symmetry of the scale or the irregularity of the steelyard, balance must be a factor never to be lost sight of if it is to be a success : the axial line is very important.

We are all “creatures of change,” therefore some change in the outlook of our living rooms is a necessity. It is well that the south terrace should be as long and as unbroken as may be, for a promenade in winter ; the summer may take care of itself. Some building (*e.g.*, a summer house) is a good method of ending the terrace wall eastwardly, thus preventing the terrace from being swept by the east wind.

Cupboards (recently made almost an immortal subject in an amusing article) are, in my opinion, best made movable. Window seats or lockers, if dry inside, make a good store place for wine or other things.

Too much care can hardly be given to the arrangement and design of fireplaces, or to the proper provision for housing curtains and window blinds. Larders should be plotted on a cool side of the house, with a north or east aspect ; they should, for obvious reasons, have no connection whatever with the scullery.

Hollow walls are less in favour than formerly ; fairly thick ones, if dry, are, I think, better. Terra-cotta is decorated brickwork, not sham stone, and should be so treated ; it is hardly in vogue just now.

Brick soft-water tanks underground should be circular on plan and domed at bottom, to resist earth pressure. Beams, if of fir, should be laid upon lead seatings, but if of oak should have no direct contact with lead. Slightly rounded plaster corners are best to avoid damage. Radiators in halls and passages make for comfort : they should be kept clear of the gangway. All porches and passages should be well trapped against draughts. Meals are not improved when prepared by a cook working in her own light.

The folding shelf in servery and other places is good in saving space when not in use. There is, perhaps, less liability of broken crockery when they are made to fold upwards. The pantry sink should, as far as possible, be safeguarded from the breakage or damage to china, glass, and plate. Safety-valves should be provided for boilers and hot cisterns when under pressure, but they require frequent attention. The keeping of cisterns and pipes clear of water while the house is empty, wards off a big plumber's bill. Larder and scullery windows should be ventilated above the ceiling line. Condensation gutters are a good thing in all stone sills.

The pivot of hung casements should be well above the centre of each light when pivot-hung. Keep framing and panels of all doors apart till the last moment. Floor joists should be laid the short way of the room, and floor boards in narrow widths.

Lead safes are useful under baths, cisterns, and w.c.'s in the house. Hot-water pipes should, where possible, pass through the napery. Bath with plug is better than with plunger ; make all pipes and cisterns easily accessible ; arrows to show the direction of flow are frequently useful.

Wherever possible keep chimney-stalks clear of valleys ; it is well to provide a damp course at the foot of all chimneys. Slightly convex roofing tiles help much to make a dry roof.

Cut off discharge from sinks and bath wastes, and down pipes at their bases, and slightly raise inner edges of spouts next the house, and so prevent as far as may be the overflow from washing walls and driving rain. Speaking æsthetically, a house without any eaves is like a human face without eyebrows. A maltster's shovel is best for removing snow from lead flats. For the sake of eyes and brains no bed should face a window.

If a plan fulfils its purpose it can hardly be too simple, or too direct : undue complexity may furnish picturesqueness, but does not increase utility, while it does increase cost. Where that is of no account, this principle may, of course, be modified.

The Taxation of Land Values.

Both the Institute and the Society were represented upon a Deputation to the Government which was received by the Chancellor of the Exchequer at the House of Commons, on Thursday 15th inst., respecting the Taxation of Land Values. The Deputation, which was an exceedingly large one comprising representatives of more than fifty different societies, and a large number of independent members of the British Constitutional Association, was introduced by Lord Balfour of Burleigh, and included Earl Cromer, the Earl of Dalkeith, Lord Hugh Cecil, Sir Philip Magnus, M.P., Sir William Chance, Mr. St. Loe Strachey, Hon. F. G. Strutt and Mr. G. Younger, M.P.

Mr. Lloyd-George was accompanied by Mr. C. F. G. Masterman, M.P., and Mr. W. H. Clarke (private secretary).

Lord Balfour of Burleigh having introduced the deputation, Mr. M. H. Judge (hon. secretary) read the terms of the memorial, two of the concluding paragraphs of which were as follows :

The immediate effect of passing the bill would be to depreciate the capital value of nearly all interests in land, probably to an extent much greater than would be shown by strict actuarial calculations.

If the needs of the State should at any time call for a tax on increment value, it should obviously be pro rata on property of all kinds, and not on one class of property, whether that property be land or anything else. The adoption of the land taxation proposed in the bill could not do other than induce a belief in the public mind that ordinary moral considerations were not in future to prevail in relation to property in land.

Only a few of these representatives were asked to speak, but Mr. George Hubbard, F.S.A., on the behalf of the Council of the R.I.B.A., stated that architects were feeling the proposals made by the Government in a general cessation of building work, and that with them were involved contractors and the numerous army of their employees, in fact, the whole of the building industry, which is one of the most important in the country. He contended that it was a false policy to impose a tax which would produce a comparatively small amount of income, and at the same time throw a large number of men out of employment, so large a number that the money raised would have to be used in their sustenance. Mr. G. A. T. Middleton who followed, wished, as representing The Society of Architects, the younger and smaller of the two great architectural bodies in the country, to associate himself entirely with what Mr. Hubbard had said. He merely added that so far as he was able to gauge the opinion of architects, and he felt that he was in a position to gauge it to a considerable extent, it was one of absolute dismay at the proposals. The Chancellor of the Exchequer in the course of his reply, said that he would have liked to have heard the representatives of the architects at greater length. He would, for instance, have

been³pleased to have had facts and figures laid before him, and if any such were brought to his notice he would undertake, as a Minister of the Crown, to give them the utmost possible consideration.

Mr. Lloyd-George in concluding his reply to the deputation invited them to send him any facts which would demonstrate that any part of the bill was not workable. He pledged his word of honour, as a Minister of the Crown, that if they were able to demonstrate by irrefutable facts that any part requires adjustment, he would do his best to put it right. He promised also that the proposed tribunal should be strengthened, and made impartial, and not dependent on the will of the Treasury.

Mr. Hubbard spoke again, on behalf of the Institute, at an adjourned meeting of the Conference of the British Constitutional Association, held at St. James' Hall, Langham Place, last Tuesday afternoon. He then said that, in the Deputation to the Chancellor of the Exchequer, the representatives of the technical societies, who had all declared against the proposed taxation, did so as experts on the subject and not from any political point of view, nor necessarily from interested motives; for he pointed out that the members of the Surveyors' Institution—a body which was opposing the proposals most strenuously—would benefit more than any other, as they would be called upon to act as valuers of the land proposed to be taxed. The amount which would come into their pockets had been variously estimated at from ten to seventeen millions sterling. So far as architects were concerned they viewed the tax with fear and consternation. The profession was by no means in too flourishing a condition at present, and the instability which had resulted from even the suggestion of the tax meant ruin to many. What was proposed was that the State should be a partner in all land development enterprise, but it would be a one-sided partnership, as the Nation neither provided the capital nor the initiative, but claimed a share of the profits, if any were made, and was exempt from all the burden of loss. The housing problem too, if it was to be solved, needed the greatest possible freedom of trade in hand.

The Conference ended by passing resolutions authorising the Committee to continue its strenuous opposition to the Land Tax proposals, until they were either withdrawn or defeated.

If any members of the Society can supply details of cases where the Budget proposals have actually affected the interests of architects or other interested parties, we shall be glad to hear from them at once with a view of supplying the Chancellor of the Exchequer with the evidence which he asks for.

The Architectural Sketching Club.

Visits to the Cathedral Cities of Northern France.

Under the direction of Mr. G. A. T. Middleton, A.R.I.B.A., a Past Vice-President of The Society of Architects, members of the Architectural Sketching Club will leave Charing Cross Station at 2.20 p.m., on Friday, July 30th and August 27th, and will travel by way of Folkestone and Boulogne direct to Laon—a picturesque town on an isolated hill, containing a fine cathedral church rarely seen by English visitors—where Saturday and Sunday will be spent.

Monday and Tuesday will be devoted to the Cathedral city of Reims, with its many points of interest, such as the triple Roman gateway and the Church of St. Remi, which contains the earliest known examples of the flying buttress.

Soissons will be reached in time for dinner on Tuesday evening, and the next day spent there to examine the Cathedral and the ruined Abbey of St. Jean des Vignes, where Thomas à Beckett lived for nine years of his life.

Thursday will be devoted to Compiègne for, if possible, a ramble in the forest and a visit to the Château.

Beauvais, whose Cathedral has the highest vault of any Gothic edifice in the world, will be reached on Thursday evening, and Friday will be spent there.

Rouen, with its three great churches, picturesque streets, and many minor interests, will have Saturday and Sunday given to it.

Amiens will be reached on the morning of Monday (August 9th and September 5th) for the study of the great Cathedral there, and the journey home will be made that evening, reaching Charing Cross at 10.45 p.m.

General Arrangements.

The charges for the tour to Laon, Reims, Soissons, Compiègne, Beauvais, Rouen, and Amiens (£10 10 0) include 2nd class travelling by rail and 1st saloon on steamer, and excellent hotel accommodation, and also admission to the Architectural Sketching Club, which is organised for the purpose of making visits to places of architectural interest at home and abroad.

Luggage should be strictly limited to such as can be carried in the hand. No responsibility whatever will be taken for it.

Payments should be made by cheques payable to Mr. G. A. T. Middleton, and sent to reach him at 19, Craven Street, Strand, London, W.C., by Thursday, July 22nd, or Thursday, August 26th, 1909, *at the very latest.*

Correspondence.

To the Editor of "The Journal of The Society of Architects."

Registration in the Transvaal.

SIR,—The Architects' Bill was read the first time last week in the Assembly at Pretoria, and the following select Committee was appointed to go through it :—Messrs. F. W. Beyers (Chairman), Jacobsz, Ferrira, Naser, W. K. Tucker, C.M.G., J. Emrys Evans, C.M.G. The Committee sat on Tuesday, when the first four-named were present. Messrs. Walter Reid, F.R.I.B.A., President of the Transvaal Institute of Architects; Robert Howden, A.R.V.I.A., M.S.A., President of our S.A. Branch; Mr. M. C. A. Meischke, President of the South African National Federation of Building Trade Employers, representing the whole of the Master Builders' Associations, and myself, as your Honorary Secretary and Building Surveyor and Sanitary Engineer to this large Municipality (Johannesburg) gave evidence, prefacing same with a statement. The Select Committee resolved *nem. con.* that it was expedient to register architects and set up a Statutory Qualification, and then called us back and went through the Bill word by word in the most careful and impartial manner, improving it in several important respects. They inspected our Society's Examination Syllabus among others. They congratulated us on the broadness of our Bill, and recommended it yesterday to the House, and it is set down for second reading next Wednesday, and by every appearance will be Law within two weeks, as no opposition is apparent. Each of the four members of the Select Committee present were Lawyers and Dutch Colonials, and we were greatly impressed with their fair-minded and open views of the whole question. You may like to publish this and are at liberty to do so. I will cable you when the Bill is finally approved.*

The R.I.B.A. were asked to help us in the Bill, but after great delay replied that they neither approved or disapproved of what we were doing, and as far as finances and the whole question went, it was a matter for local architects.

Yours faithfully,

June 26th, 1909.

EDWARD H. WAUGH,

Local Hon. Secretary,

South African Branch

(Johannesburg Centre).

Standardising Pipes.

Mr. B. R. Tucker, M.R.SAN.INST., has been appointed by the Council of The Society of Architects to represent them at a Conference which is being organised by the Engineering Standards Committee to consider the desirability of a standard being adopted for stoneware, fire-clay, and other similar pipes.

* The Bill passed both Houses on July 7th.—ED.

Registration in the Transvaal.

Last month we referred to the fact that the Bill for the Registration of Architects promoted by the Transvaal Institute of Architects having been put forward with the support of all interested, it was extremely unlikely that any opposition would be met with and we anticipated that the Bill would become law.

Immediately following publication we received a telegram from the Society's branch at Johannesburg intimating that the Bill had passed both Houses of the Legislature, and though we have not yet received further details it may be assumed that Registration in the Transvaal is now an accomplished fact.

We have already published the main points of the Bill and we need not do more at present than heartily congratulate the Transvaal Architects on the success which has so largely attended their efforts. *The Building News*, in a leading article on July 16th, says, an Architects' Registration Bill has now passed both houses of the Transvaal Legislature, and has become a legal "Ordinance," having all the effect in that colony of an Act of Parliament in England. Whether the Bill has been passed as drafted we do not yet know, but it seems unlikely that any material alterations have been made. If this be the case, the measure is a very different one from anything which has been suggested at home. The same result is achieved as would be accomplished by the passing of the well-known Registration Bill which The Society of Architects has introduced into the House of Commons from time to time; but the document by which it is accomplished is much shorter, and while it will in all probability prove effective in the Transvaal, we fear it might be considered amateurish here—the conditions, of course, are very different.

The first two sections go to the root of the matter. They lay it down under penalty that no person may describe himself or hold himself out to be an architect in any way whatever unless he is registered under the Act. The third section incorporates a new architectural body, to be known as the Association of Transvaal Architects, giving it perpetual succession, and the right to use a common seal and to act in all respects in a corporate capacity, with the limitation that its profits or other income shall be spent in promoting the objects of the Association, and not in paying any dividend to its members. This, in effect, is the formation of a body for the Transvaal which shall correspond with the R.I.B.A. in England such as that would become on the passing of a really well-devised Registration measure here. There is no suggestion, however, of there being more than one class of members. The Association will be formed upon the basis of one man one vote and one

privilege. In most respects the members will have the right of managing their own affairs. They will be entitled to frame their own by-laws, so long as they are not inconsistent with the Act, for certain specific purposes, including the fixing of the amount of annual subscription; the regulation of the meetings both of the general body and of the Council; the determination of the mode of nomination of members and of Council; the arrangement of the times and places of examinations for registration; and generally for such purposes as may seem requisite from time to time, to give effect to the Act and for the furtherance of the objects of the Association. Once the by-laws have been framed, alterations can only be made at a special general meeting by a majority of two-thirds of the members present thereat; but no power has been taken to require a confirmatory meeting. This seems to be a mistake, the only check upon an ill-considered alteration being found in an appeal to the Governor of the Colony, as no by-laws or alterations thereto are legally binding until they have met with his approval and have been published in the Gazette. Thereafter, however, they have the force of law in so far as they are not in conflict with the provisions of the Act. There has been a tendency in England of late to pass Acts of Parliament of this character, giving wide powers to a corporate body to regulate its own affairs by by-laws which have legal force once they have been formally adopted and been approved by some higher authority. There is a great deal to be said for this method of treatment of the Registration problem, and we commend it in particular to the consideration of the Council of the R.I.B.A., which must before long take the subject seriously in hand. If the precedent of the Transvaal be followed, a Registration Bill suitable for England could be produced by giving little more than legal sanction to the Charter, with well-devised additional powers for forcing all architects in the country within the ranks of one class or another of the Institute.

The fourth and fifth sections of the Transvaal Act nominate a provisional Council, and give it power to act until the first regular Council comes into office, its principal duty being that of compiling the first register. Within a month of the passing of the Act—that is, almost immediately now—the provisional Council must meet and appoint a clerk or registrar and other officers, and it must open a register for all architects who within the next six months prove that they have certain very moderate qualifications. Each must, for one thing, be resident in British South Africa at the date of the application, and must either be a member of the Transvaal Institute of Architects, or of some other institution or society of architects of equal standing, or be publicly and bona-fide practising as an architect in the Transvaal for any period, (however short), or have been engaged as an assistant to an architect in the Transvaal, and have had at least seven years' professional experience. The provisional Council have also the right, by

a bare majority, of approving the registration of any person whom they think to be possessed of qualifications and experience at least equal to those in one or other of the foregoing instances. This is exceedingly generous; it opens the door as wide as it can be possibly opened at the outset. We are not sure but that a minimum period of practice should not have been insisted upon, if it had only been a single year.

Once the six months has elapsed during which the first register is in course of compilation, registration will not be by any means so easy to obtain. A candidate will then have to prove that he has attained the age of twenty-one years, and is resident in British South Africa, and he must pass the examination either for the Associateship of the R.I.B.A. or for membership of The Society of Architects, or examinations which are to be conducted by the new Association of Transvaal Architects for registering purposes; and he must have had at least four years' professional and practical experience as an assistant to an architect besides. There is no loophole for those who have attended architectural schools or colleges; a period of articles or, failing articles, as an assistant is essential. A little more consideration would probably have led to a wiser wording of this section. Certainly the Council are, by a bare majority again, at liberty to exempt from the examination on whatever seems to them to be a proof of equivalent qualification; but they have no such power to exempt from the period of assistantship except in the case of persons who are actually Associates or Fellows of the R.I.B.A. or members of The Society of Architects or the Transvaal Institute of Architects—or as it is somewhat widely put, “of some other Society or Institute of Architects which requires of its members qualification and standing at least equal to that of one of these societies.” It therefore appears as if the Councils of all architectural bodies in all English-speaking countries will be responsible, in admitting to their membership, for giving a qualification which at any time might carry with it the right to registration in South Africa.

In one respect the Transvaal Act goes far beyond anything which has been contemplated in an English measure. It specifically defines what professional misconduct is, creating a large number of offences which shall render an architect, once he has been registered, liable to be suspended from practice for any period that may be decided by the Supreme Court, or to have his name removed from the register entirely. It would have been much better to have given powers to the Council to deal with these matters in a general way, subject perhaps to revision by the Court. The enumeration of offences is almost sure to leave loopholes, for, as we pointed out last week, it is the unexpected and the unprecedented which causes most trouble. Strange to say, too, our Transvaal friends have forgotten to make larceny, fraud, and other ordinary offences causes for removing a name from the register. An architect may be the vilest character

on earth, and have served any number of terms of imprisonment, but yet he would have to be retained on the register unless he were proved guilty of *professional* misconduct. There is no Corrupt Practices Act in the Transvaal, and consequently several sub-sections deal with certain classes of misconduct which in England come within that Act. Besides this, an architect is to be forbidden to allow any person, not being his partner, to participate in the profits of his profession, directly or indirectly; and conversely, an architect is not to accept any share of the profits from the professional work of a builder not being his partner. There is a curious loophole here for partnership between architects and builders of a very undesirable character, and it is also possible for any person in partnership with an architect to practise in that architect's name as a public architect whether he be registered or not. Thus the very care taken in devising these particular clauses is likely to militate against their effectiveness. Advertising and touting and improperly obtaining or attempting to obtain work are forbidden, and so is the undertaking of architectural work which is the subject of dispute on condition that payment shall only be made in the event of a successful issue of the dispute—a clause which is right enough in the case of solicitors, but of doubtful application to architects.

We congratulate the Transvaal architects in having obtained legal sanction to the principal of registration. If it should prove that they have made mistakes in detail they will assuredly be quick to correct them, and when our turn comes here at home we shall profit by their experience, and thank them for the work which they have done as pioneers.

The Principle of Federation.

We have previously called attention to the tendency in almost every community of professional men towards statutory federation or Registration as it is more familiarly known. It is a sign of the times that we find Accountants are seeking registration, and for that purpose have secured the support of the Earl of Chichester, who has introduced a Bill into the House of Lords. In many respects says the *Building News*, it might serve as a model for an architects' Bill, there being two bodies of accountants, senior and junior, known as the Institute and the Society respectively, and several Scotch, Irish, and Colonial bodies, which correspond with the architectural "allied" societies. Large powers are to be invested in a committee of fifteen members, of whom nine are to be nominated by the Institute and six by the Society; but these bodies are to remain intact as at present constituted, there being no suggestion of amalgamation, either now or in the future.

Opposition to Compulsory Architectural Education in Toronto.

"For e'en though vanquished he could argue still." The characteristic argumentative propensities of Oliver Goldsmith's schoolmaster seem, says *Construction*, to be the basis of the opposition to a provincial architects' license law, inaugurated by a band of architects in Toronto, who seem inclined to declare themselves against everything that may be proposed by others than those who are of them.

That the licensing of architects would do much to raise the lower strata of the profession in the province, is a fact that no fair-minded man, who knows the situation will deny.

That it would have a tendency to guarantee to the public a protection against the incompetent, which it now has not, is a fact beyond dispute.

That it would discourage the dishonest operations of speculative builders of architectural monstrosities and structurally defective shacks, is a fact that has been established.

That it would make the architect responsible to the community as well as his client, for the safe and honest planning and construction of buildings, is a fact that cannot be honestly denied.

That a licensing law has operated successfully and satisfactorily wherever it has been enacted, is purely a matter of record.

That every practical and prominent practitioner has been a friend to such a measure wherever it has been proposed, is evidenced by the enthusiasm with which the members of the profession have welcomed the law wherever agitation for its adoption has been created.

In the face of these indisputable facts, we ask why is it that there is opposition to such a measure in Ontario, the premier province of Canada. We answer that this opposition, inaugurated by a few, is not justified by the facts of the case, but, we are forced to believe, almost against our will, that it is the result of a determined organized effort to oppose the measure purely upon the principle of disliking to agree with that which has been proposed by another. To say the least such an attitude is undignified and unbecoming of reputable members of so noble a profession as architecture.

In justification of our contention, we beg to relate some of the contradictory stands taken by those opponents of compulsory education. When it was proposed to make the Ontario Association of Architects a closed Corporation, their efforts were strongly opposed by the members of the, then, Eighteen Club. When the A.I.C. petitioned the Dominion Government for a charter designed to make it a closed Corporation, this club rightfully opposed such legislation.

Construction strongly opposed this method of registration as well, and gave much space to the views of many prominent architects who were not in accord with the close Corporation idea. On December 3rd, 1907, at the Annual Meeting of the Toronto Architects' Society, of which Mr. Eden Smith was President (who is generally looked upon to represent the views of the organization that now so strongly opposes compulsory education in any shape or form) the following resolution was unanimously adopted and given to the public:—

"Whereas, The question of registration of architects has been brought up by the press, and as it is a matter with which the newly formed Institute of Architects of Canada, and the Ontario Association of Architects are attempting to deal, the club wishes to put itself on record as follows: That the Toronto Architectural club is not opposed to a proper form of registration of Architects, based on education, and under direct Government control, but it is opposed to the form or forms of registration put forth by the Institute of Architects of Canada and the Ontario Association of Architects, which would mean giving the control of the profession over into the hands of certain privileged bodies of the profession."

The position of the Toronto Architectural Society as declared in the above resolution was a most commendable one, and it appeared for a moment as though some common basis of procedure could be agreed upon whereby the Ontario Legislature could be induced to give some legal status to the profession.

Realizing this, the Ontario Association dropped their former programme and endorsed the policy of placing the conduct of examinations, etc., into the hands of the Government (a policy endorsed by the Toronto Society in their resolution). Then we again have a storm of protest. Against what? Against that very thing proposed by those who now oppose it. Mr. Horwood and Mr. Eden Smith have recently written letters to *Construction*, in which they voiced the views of the Toronto Society of Architects, and in which they opposed any and all forms of compulsory education.

It has been argued that legislation would tend to demoralize the profession. Such an unwarranted contention is hardly worth consideration. Wherever the law has been in force, it has proven to have exactly the opposite effect of that outlined by its opponents in Ontario.

In England a measure of this nature is now proposed. *In South Africa the Transvaal Institute of Architects has drawn up a bill to provide for registration. In New South Wales a bill has been presented by the Institute of Architects that promises to meet with success. The State of Missouri has recently enacted a law whereby the architectural profession receives legal recognition, and while the law is moderate in its provisions, its enactment serves to show that the results obtained from the licensing acts already in existence in Illinois, New Jersey and California have operated in a manner such as has recommended

*[This Bill passed the Transvaal Legislature on July 7th, 1909.—ED.]

them to the legislature in the other States of the American Union. The Missouri law limits architectural services to buildings of \$10,000 and over, and provides for a Board of Examiners, one member of which is to be a professor of the State University. In general principles it is similar to the Illinois law at its enactment twelve years ago, and undoubtedly will eventually gain full control of the profession in the State. To give some idea of the practical working out of the Illinois law, we quote below from the last report of the Illinois State Board of Architects :

" The semi-annual spring class examination for license to practice the profession of architecture in the State of Illinois, was held at the University of Illinois, Urbana, April 8th and 9th. Thirty-four candidates appeared for examination. The Examination Committee reported at the regular meeting of the board held at Chicago on the 16th instant. Eleven candidates who had passed the examination on all subjects were awarded certificates entitling them to license. Seven others received an average of seventy and over, but received less than sixty in some topics. They were passed conditionally, and will have an opportunity to be examined again on those topics only at a future time, before license can be issued to them. Eighteen candidates who had received less than seventy marks were rejected. At the meeting held April 16th, Frank Easeberg, of Chicago, was on trial for dishonest practice in using his seal to enable another party to obtain a permit from the Department of Buildings. The case was continued to the May meeting of the Board. The prosecutors of the Board reported that on April 12th, Lewis H. Sturges, of Indianapolis, had been convicted for practicing architecture without a license at Kansas, Edgar County, Illinois, and on April 15th, Eugene E. Rother had been convicted for practicing architecture without a license at Chicago. He was fined \$25 and costs."

To those who contend that a licensing law may appear all right in principle, but that it is not effective in operation, the above report should prove more than interesting.

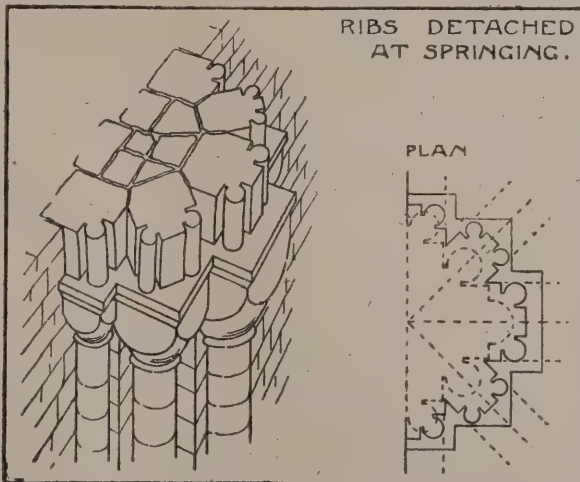
Reviews.

The Architecture of the Renaissance in Italy. A General View for the use of Students and others. By William J. Anderson, Architect, Associate, of the Royal Institute of British Architects. Fourth Edition, Revised and Enlarged, With Seventy Collotype and Other Plates, and One Hundred and Ten Illustrations in the Text. London, B. T. Batsford, 94, High Holborn, MCMIX.

At length a new edition of Mr. W. J. Anderson's acknowledgedly beautiful book on the Italian Renaissance has been published. Doubtless, if Mr. Anderson had lived, the task of revision would have been undertaken much sooner; he was able to revise it once for the second edition in 1898, but owing to his death shortly afterwards, the third edition was no more than a re-print of the second. On a fourth edition being called for in an unmistakable fashion, the publisher, Mr. B. T. Batsford, placed it in the hands of Mr. Arthur Stratton, A.R.I.B.A., and the result has thoroughly justified the selection. He has not interfered in any respect with the scope of the original volume, nor has he altered or even enlarged the subject matter to any great extent, contenting himself with making obvious corrections and adding paragraphs here and there which were rendered necessary by his introduction of new illustrations. Of these there are a considerable number, some of them photographs and some of them line drawings, the latter being many of them the work of Mr. Leslie Wilkinson, A.R.I.B.A. The result has been to strengthen a book which was already strong without interfering with its charm of style and with its added interest from the intimate knowledge which the author originally showed that he possessed, not only of Italian architecture but of Italian history also.

A History of Architectural Development, in three volumes. Vol. II., "Medieval." By F. M. Simpson. Architect, Professor of Architecture in the University of London; Fellow of the Royal Institute of British Architects; sometime Professor of Architecture in the University of Liverpool; Royal Academy Travelling Student, 1884. With 257 Illustrations. Longmans, Green and Co., 39, Paternoster Row, London, New York, Bombay and Calcutta. 1909.

The second volume of Professor Simpson's Architectural History is at least equal to the first. This is saying a very great deal for it. The author approaches his subject from an independent standpoint; he is not entirely bound by what previous authorities have said, but takes the trouble to investigate for himself, studying the actual buildings and travelling to a large extent. As a result, his opinion is worth a great amount of consideration; and even when one is compelled to disagree with him, one is likewise compelled to acknowledge that there is a good deal to say for the arguments which he puts forth. He has had the courage in this volume, which deals with medieval architecture, to relegate the English to its proper comparatively insignificant position. If anything he has gone too far in this respect, failing to recognize sufficiently how distinctive was the English Gothic work, and particularly how beautiful were the English mouldings and the foliage carving, and how utterly different these were in their inspiration from the contemporary work in France and elsewhere on the continent. The fear is that an English student, taking this book as that upon which to found his knowledge of Gothic architecture, may perhaps be led to think too little of the work of his own land. On the other hand,



he will obtain a generally broad understanding of Gothic principles which the study of the buildings in any small district alone would fail to give him. He will be shown how, for instance, the Gothic plan developed, and why and where, and he will be brought to a full understanding of elementary Gothic construction possibly far better in such an illustration as fig. 59, which shows a detachment of ribs at the springing of

a Romanesque vault, than he could obtain it from most of the earlier text books. Taken with this caution and a considerable amount of personal study of English buildings, together with a certain recognition that the author is not always right even in his most definitely stated conclusions, the book is an extremely valuable addition to our knowledge of historic architecture. If it is not quite safe to place it in the hands of an elementary student, it is, at any rate, exceedingly interesting to all of larger growth.

Simplified Methods of Calculating Reinforced Concrete Beams. By W. Noble Twelvetrees, M.I.MECH.E., A.M.I.C.E., M.R.S.I. Whittaker & Co., London, 1909. Price 6d. net.

In this little pamphlet a laudable endeavour is made to simplify the calculations necessary for designing reinforced concrete beams and floor slabs. By adopting a system of standard rotation the author shows that the half-dozen best-known formulæ are all identical, but beyond that comparison he does not apparently indicate any simplification of the formulæ which will reduce the labour of calculation by ordinary methods; he, however, introduces labour-saving diagrams, which will give the value of the principal factors required. He provides for compressive stresses, ranging from 300 lb. to 700 lb. per square inch on the concrete, and for various ratios of safe working stresses on the concrete and steel, but he does not explain how to arrive at the value of m —the ratio of the coefficients of elasticity, which he gives variously from about 12 to 20. He then describes a "beam calculating instrument," which will probably be very useful to those who can keep it in constant work. The objection to special instruments is that the method of handling them has often to be learnt afresh each time owing to want of sufficient practice. The value of the pamphlet to the architect would have been much increased if an actual example of a ferro-concrete floor, with columns, main beams, cross beams and floor slab, had been calculated through.

Steel Construction, Carpenter and Builder Technical Series. John Dicks Press, Ltd., London, Price, 6d.

For the small price of sixpence this little volume forms a fair introduction to the subjects of Steel Construction and Ferro-concrete work for elementary students. As it does not profess to do more than this it must not be criticised too closely, and it cannot take the place of more complete works to those who wish to follow up the subject, and be able to design such constructions in an economical and intelligent manner. The first eleven chapters are by Mr. Herbert Chatley, B.Sc., the twelfth is from information given by Mr. S. Bylander, and the last one on painting steel work by Mr. G. Depierres. The work begins with a description of the material, the usual form of rolled sections and the general principles of stress. The stresses in beams follow next, but even an advanced student may find some difficulty in grasping what is meant by the following sentence. "In the first place beams are usually subjected to what is termed 'beading'—that is to say, a tendency to turn." They do not realize at first that it is a misprint for bending, as the latter part of the sentence affords them no help. The author uses the expression foot-tons, while scientific writers have generally agreed that foot-tons shall be retained for dynamical problems and ton-feet shall be used in statical problems. Under the head of values for B.M.'s at centres we are told "Cantilever—End load only, B.M. equals load in tons multiplied by length in feet," whereas, this is the maximum bending moment, occurring at the support, that in the centre being half the value. Again, "Beams supported, central load, B.M. equals one-and-a-quarter product of load and span," instead of one-quarter. Also "Uniform load, ends fixed, B.M. equals one twenty-fourth load and span," without any mention of the most important fact that the maximum bending moment is at the ends and is equal to one-twelfth of the product of load and span. Among the illustrations the column bases and some of the roof details will bear improvement. The recommendation to put lead between the rolled joists and stone template is not generally approved, owing to alleged galvanic action, and tarred felt is preferred if anything is inserted. The panel of brickwork in a steel-framed building is here called a "spandrel," which is an Americanism, the term is usually limited in England to the triangular portion over the haunches of an arch, or the triangular piece of framing under a staircase. At p. 58, we are told that "By Building Law in London it is permissible to project the footings of a wall on to a neighbour's land," but the author does not tell us that compensation must in that case be paid to the adjoining owner unless both agree to the building of a party wall. The chapter on Ferro-concrete gives a simple and effective illustration of the principles, but the author rightly says that the formula he gives for moment of resistance does not form a very satisfactory basis for calculation. Mr. Bylander gives a practical chapter which is followed by one on cleaning and painting steelwork. Cleaning by sandblast is recommended and then painting with a varnish paint, orange lead being used as a priming coat.

The Arts connected with Building. Lectures on Craftsmanship and Design, delivered at Carpenters' Hall, London Wall, for the Worshipful Company of Carpenters. By R. W. Schultz, C. F. A. Voysey, E. Guy Dawber, Laurence A. Turner, F. W. Troup, A. Romney Green, M. H. Baillie Scott, Chas. Spooner and J. Starkie Gardner. Edited by T. Raffles Davison. With 98 Illustrations of Old and Modern Work. B. T. Batsford, 94, High Holborn, London, 1909 (5/- net).

A collection of a series of lectures, written by different people with different ideals and without collaboration, is apt to lack sequence and connection. This, however, is not a fault which can be found with the series now published on the Arts connected with building. The satisfactory result achieved is undoubtedly due largely to careful selection on the part of the editor, who has introduced a considerable number of illustrations, not necessarily bearing upon the text, but indicative, as he says, of the spirit which has inspired the subject matter of the lectures. The aim of their publication is to stimulate the ambition of craftsmen towards a high ideal of attainment, with the additional hope that others may be encouraged in a belief as to the possibilities of modern craftsmanship. The first three lectures, by Mr. R. W. Schultz, are entitled "Reason in Building, or the Commonsense Use of Material," and a good deal is said in them about carpentry and brickwork in particular. These are followed by another lecture on woodwork by Mr. E. Guy Dawber, and immediately afterwards Mr. F. W. Troup proceeds to deal with yet another branch of the same subject, considering the influence of material on design so far as woodwork is concerned. The tools employed also have their influences, as is pointed out by Mr. A. R. Green, while Mr. C. F. A. Voysey, in his usual breezy style, deals with ideals in things, and Mr. M. H. Baillie Scott with ideals in buildings. The remaining lectures are devoted to the crafts rather than to architecture—furniture, plaster work, lead work and decorative iron work, each being considered in turn; but all in the same spirit, which is that of the great Gothic workers of the Middle Ages, and perhaps, of the great art workers of all times.

Visitors' Guide to Westminster Abbey. By Francis Bond, Hon. M.S.A., M.A., F.G.S., Honorary Associate of the Royal Institute of British Architects. Author of *Gothic Architecture in England*; *English Cathedrals Illustrated*; *Screens and Galleries in English Churches*; *Fonts and Font Covers*, etc. Illustrated by 12 plans, 36 photographs and other illustrations. Henry Frowde, Oxford University Press, London, New York, Toronto, and Melbourne 1909 (price, 1/- net).

Mr. Francis Bond has added to the obligation under which he has placed all lovers of gothic architecture by producing an exceedingly careful guide to Westminster Abbey. It cannot be said that he has the power of rendering his subject interesting, but at least he is methodical, and his information is unquestionably correct. These, after all, are the principal requirements in a book of this sort: facts are what visitors want, and facts are what Mr. Bond provides them with. He has also taken considerable pains with the typography, so that the principal names can be picked out with ease, while some descriptions of comparatively little moment, but often of considerable human interest, are printed in small type in order to distinguish them from the general text. The end of the book contains a series of half-toned reproductions from excellent photographs, illustrating all the principal points of interest, and the most significant monuments in the Abbey.

Students' Correspondence Classes. Commencement of Third Year's Course.

The examiners report that the work in the elementary stage is not quite so good as last year, the average age being two years less. In the advanced section, however, the work, particularly in specifications, is very satisfactory.

The following students head the list in first and second year's course respectively, and have been awarded prizes of the value of one and two guineas respectively. It may be noted that Mr. Pickup was the winner of the elementary prize last year.

Elementary—D. H. H. BARRY, 8, Wilmington Gardens, Eastbourne.

Advanced—JOHN PICKUP, 6, Geraldine Street, Blackburn.

Syllabus for 1909-10.

The session is from September to June inclusive, with one month's vacation at Christmas, and the course extends through three years, the fee for each year being £2 2s. 0d. to be paid in advance.

It is advisable that Students should take the three years' course, but, if desired, the course may be taken from year to year.

Papers are sent out by the examiners once a fortnight for return by the Students in 10 days. These are examined, annotated and corrected by the examiners and returned for completion with the next question. Where it is necessary, the examiners give personal interviews to Students.

All papers set are to be returned and to be the sole property of the Society, nor is any use to be made of them by Students or others for teaching or illustrations. The Society reserves the right of exhibiting or illustrating the drawings.

The questions are graded and consist of structural questions dealing with portions of a building covering all trades, with a view of teaching the proper preparation of reliable working and contract drawings and elementary design.

In the second and third years the work will include the preparation of small designs, details, and specification for same.

The examiners inform each Student of his position in order of merit for improvement and also of his position in the whole class, for which purpose the various completed worked answers must be returned at the end of each year.

A model question may be obtained of the Secretary, price sixpence, and specimens of the Students' work, showing the value of the course, may be seen at the Society's Offices.

Prizes of the value of One, Two and Three Guineas respectively, will be awarded to the Students heading the lists in the first, second and third year's course.

The Society of Architects.

Examination, April, 1909.

Section III.—PRACTICE.

Subject a.—SPECIFICATIONS.

WORKED ANSWERS by W. R. MALLETT, F.S.I., Examiner.

Question 1.—*What notices to the Local Authority would have to be given by the Contractor previous to, and during the construction of a building, to comply with the requirements of the Model Bye-laws, and what tracings, particulars of materials and work, etc., would have to be furnished? Give as full particulars as possible.*

Answer 1.

Notices, &c.

The first requirement is to deliver a Notice in writing to the Clerk or Surveyor of the Local Authority of a person's intention to erect a new building, which must be accompanied by complete plans and sections of every floor of such building, drawn in ink to a scale of not less than 1 in. to every 8 ft., and shall show the position, form and dimensions of the several parts of such building and of every water closet, earth closet, privy, cesspool, well, and all other appurtenances, and to show whether it is intended to be used as a dwelling house or otherwise. Also by a description in writing of the materials of which it is intended that such building shall be constructed; and of the intended mode of drainage and water supply. At the same time must be sent a block plan, to a scale of not less than 1 in. to 44 ft., which shall show the position of the buildings and appurtenances of the properties immediately adjoining; the width and level of the street in front, and of the street (if any) at the rear of such building; the level of the lowest floor of such building and of any yard or ground belonging thereto; the lines of drainage of such building and the intended size, depth, and inclination of each drain, and the details of the arrangement proposed to be adopted for the ventilation of the drains; the position and depth of the sewer into which the drains are to discharge should also be shown.

NOTE.—These particulars of levels, depths, etc., can hardly be shown without furnishing a section as well as plan, although the Model Bye-law does not provide for this.

Short notice in writing (generally on printed forms provided) must be given (a) before the actual commencement of work; (b) before covering up the foundations; (c) before covering up drains (so that the Inspector may test them) and (d) on the completion of the building within, say, a month before occupation.

If the Surveyor to the Local Authority, during the progress, or after the completion, of the building, notifies to the Builder that in the construction of the building any work has been done in contravention of any bye-law, and requiring him, within a specified time, to cause any work done contrary to the bye-laws to be amended; or to do anything which by such bye-laws may be required to be done, but which has been omitted to be done, a notice of the completion of such amending or completing work must be sent by the Builder to the Surveyor to the Local Authority within a certain time (usually seven days) after the completion of such work.

Question 2.—*Give a short specification for the brick walls of an underground story of a detached building, to be used as a store for goods, constructed with hollow walls, and made impervious to wet, etc.*

Answer 2. **Basement Walls.**

The bricks are to be hard burnt stocks of approved make, whole and sound. The mortar is to be composed of greystone lime and clean sharp sand in the measured proportion of 1 of lime to 3 of sand intimately mixed together. Build the walls, as shown by the drawings, with proper spread footings and $2\frac{1}{4}$ in. hollow space, in mortar and Flemish bond, no four courses to exceed by more than 1 in. the height of the bricks laid dry. The internal faces to be finished with a neatly struck joint as the work proceeds, and twice lime whitened on completion of the works; the outer faces of walls to have the mortar-joints raked for asphalte. The outer and inner portions of the walls are to be bonded together with Messrs. ——— & Co.'s No. 4 wrought-iron galvanized wall-ties, placed not more than 3 ft. apart in courses 18 in. apart vertically, and breaking joint or "staggered." Care to be taken to keep mortar droppings out of the hollow space, and for this purpose deal strips are to be laid on the ties, and raised from course to course, to prevent droppings below.

Form damp-proof courses the full thickness of the walls; one 3 in. above the footings and one at top 6 in. above the finished ground level; the top courses of the wall being worked over the hollow spaces to take same; the damp-proof courses to be formed of Seyssel asphalte, $\frac{1}{2}$ in. thick, spread over the entire surface and screeded inside. Render the outside of the walls all round with Seyssel asphalte, $\frac{3}{4}$ in. thick, in two layers, and great care to be exercised to make perfect connections between the damp-proof courses and the vertical work. The asphalte work is to be carried out by Messrs. ——— & Co., and executed by workmen in their employ.

Provide Messrs. ——— & Co.'s No. 1 pattern 9 in. by 3 in. stoneware air bricks and build in the courses next the damp-proof courses, 4 ft. apart for the ventilation of the hollow spaces.

Question 3.—*Describe, in detail, the joiner's work to a seat for seven persons in the nave of a country church, to be formed of deal, with bench ends, book board, hat rail, etc., complete.*

Answer 3. **Church Seats.**

Construct the seats with well seasoned picked yellow deal, free from knots, shakes, and other defects.

The bench ends to be $2\frac{1}{2}$ in. plowed, tongued, and glue jointed, cut, worked and molded on the edges as shown ; the seats to be $1\frac{1}{4}$ in. rebated for tongued joint to backs, and plowed, tongued, and glue jointed to 6 in. by $2\frac{1}{4}$ in. front rail with molded nosing ; the top of seats to be slightly dished, as indicated, and the ends to be properly housed into bench ends ; put two intermediate supports to each seat of $1\frac{1}{4}$ in. deal cut to molded form shown. The backs to benches to be $1\frac{1}{2}$ in. framed in three panels, stop chamfered with molded stops on outer side, and the panels filled with $\frac{3}{4}$ in. narrow battens, plowed, tongued and V jointed and rebated for tongue all round, let into groves in framing and finishing flush on the inside face with a V joint all round ; finish the backs with a cushion capping $2\frac{1}{4}$ in. by 1 in. tongued on to top rail and with a small bedmold under on outer side. Fix the backs to the required slope and properly house into the bench ends. The book boards are to be $4\frac{1}{2}$ in. by $\frac{3}{4}$ in. tongued to backs, with similar rail in front fixed with a clear space $\frac{3}{4}$ in. above the boards to form pockets, ends housed into bench ends and with two intermediate blockings $4\frac{1}{2}$ in. by 4 in. by $\frac{3}{4}$ in., shaped at top. Put $2\frac{1}{4}$ in. by $\frac{3}{4}$ in. battens, double to form hat rests under the seats on cut brackets tongued to seat-bearers and housed into bench ends.

The dimensions given are the sawn sizes and $\frac{1}{8}$ in. will be allowed off for each wrought face ; all to be neatly wrought for staining and varnishing, and worked to detail drawings. Fix the bench ends to wood floor with two wrought-iron angle irons, $3\frac{1}{2}$ in. by $3\frac{1}{2}$ in. by $\frac{1}{4}$ in., galvanized, Messrs. ——— & Co.'s No. 10, to each end, secured by round headed screws, etc., complete.

Provide and fix at one end of each bench Messrs. ——— & Co.'s No. 16 brass umbrella holder with galvanized iron tray, etc., complete.

Question 4.—*Draft a specification for covering a cupola roof to the tower of a town hall, with boarding and copper, providing what you consider necessary and suitable.*

Answer 4. **Cupola.**

Provide all necessary filleting, etc., and cover the cupola roof with inch yellow fir battens, narrow where required to suit the curves, thickened and with splayed joints where requisite, laid horizontally and secured by galvanized iron nails well punched in ; the joints to be planed even and the ends splayed to fit the hips, etc. Provide 2 in. by 2 in. rolls about 2 ft. 4 in. apart, and 4 in. dia. rolls on the hips, all cut to the required sweeps.

The copper sheets to be No. 24 B.W. gauge, weighing 16 oz. to the ft. super., to be carefully bent to the necessary curves and welted to receive the cappings to the rolls, etc. ; the junctions of sheets across the flow to be welted and the whole laid

so as to allow for expansion and contraction. Form the rolls with welted joints to sheets, etc., and proper stop ends on bosses welted on. Similarly cover the cornice at base of cupola with the outer edge turned over and dressed. Great care is to be taken to exclude wet, etc., and the copper work is to be supplied by Messrs. ——— and Co., and executed by workmen in their employ.

Provide a sum of £20 for copper finial, prime cost value at the manufactory, to be worked to detail drawing and securely fixed as may be directed.

Question 5.—*Write a specification for the finishing and fitting up of a single compartment of the slipper baths of a first-class public bath establishment in a country town, including enclosures, and providing what you consider suitable and necessary.*

Answer 5. **Slipper Bath.**

The wall finishings to a height of 6 ft. 6 in. to be white glazed bricks set in Portland cement and pointed in Keene's cement; finished on the top with an approved molded string course 3 in. deep, and at bottom with quadrant curve from vertical face to paving. Form the partitions enclosing the compartments to a total height of 6 ft. 6 in. with Messrs. ——— & Co.'s blocks 2½ in. thick, glazed on both sides, set in Keene's cement on steel channel 3 in. above the floor and supported on 3 in. by 3 in. by 4 in. slate blocks at angles and finished at top with a 3 in. molded and glazed brick coping to match the strings.

The floors to be formed of 4 in. by 4 in. Burslem plain red tiles, bedded and jointed in Portland cement on a bed of cement concrete 4 in. thick (6 of gravel to 1 of Portland cement) rendered in cement 1 in. thick to receive the tiles; the surface of the paving to have a slight fall to the channel in corridor outside.

The door to be 2 ft. 3 in. by 6 ft. 3 in. "Gilmour" veneered teak, hung by a pair of 3½ in. strong brass butts with steel pins, and provided with Messrs. ——— and Co.'s No. 24 indicator latch and lock with brass furniture. The frame to be 4 in. by 3 in. solid teak well secured to floor and partitions, rebated and beaded all edges.

The bath to be Messrs. ——— & Co.'s fire-clay bath, 5 ft. 6 in. long, inside measurement, tapered sides and with four legs, porcelain enamelled white inside and out. Lay on hot and cold water with 1 in. pipes from main supplies; iron welded tubing for hot water and drawn lead for cold, with all proper joints and necessary fittings, etc., and connect to the valves which are to be Messrs. ——— & Co.'s No. 216, in gun-metal, non-concussive and capable of being regulated from the outside. 1 in. valves for hot and cold supplies, overflow and quick waste, 1½ in. trap and waste pipe, etc., complete.

Provide a foot board 2 ft. by 1 ft. 6 in. of yellow deal framing 2 in. thick with inch square lattice work panel, worked to detail and with the edges and corners

slightly rounded. $1\frac{1}{4}$ in. deal towel rail on cut brackets to detail, plugged to wall. $4\frac{1}{2}$ in. by $\frac{3}{4}$ in. rail with chamfered edges and three double hat and coat pegs, Messrs. ——— & Co.'s No. 14, in brass. Mirror 2 ft. by 1 ft. 6 in. (outside measurements) with silvered plate-glass in suitable air-tight frame and back; form a shelf under same for brush and comb, 6 in. by 1 in. deal supported on two shaped brackets 6 in. by 6 in. by 1 in. Provide a seat 2 ft. by 1 ft. 4 in. of $1\frac{1}{4}$ in. deal, mitre clamped, with rounded edges and corners and secured by brass screws to a pair of cast-iron galvanized brackets, Messrs. ——— & Co.'s No. 20, with the ends let into wall and made good. Enamelled plates, Messrs. ——— & Co.'s No. 212, with the number of the bathroom to be fixed inside and outside the door, and a removable soap dish, No. 14, coated with vitreous enamel to be furnished to each bath. Also at side of bath a brass electric push in ivorine rose with the necessary insulated wires and connections for electric bell communication as may be directed.

The teak door and frame is to be beeswaxed and dry polished, and the deal and iron work, except seat and footboard to be painted four coats, finished in white enamel paint.

Section III.—PRACTICE. Subject b.—CONTRACTS.

WORKED ANSWERS by FRANK W. MACEY, Examiner.

Question 1.—*How can a contract be altered by one of the parties without the consent of the other party?*

Answer 1.—No contract can be altered by one of the parties except by consent of the other party, unless power be given in the original documents to one of the parties to do so.

Question 2.—*A Builder sends in his account for work done under a schedule of prices, but increases his charge for excavating on the plea that he encountered rock. Is he entitled to do so?*

Answer 2.—If a Builder gives a price for excavating a certain piece of work, he must abide by his price, no matter what obstacle he may have to contend with.

Question 3.—*How can an Architect legally order extra work on a contract?*

Answer 3.—An Architect cannot order extra work unless he has power under the contract to do so, or unless he is specially instructed by the employer to do so.

Question 4.—*An Architect leaves the superintendence of a work entirely to one of his assistants. The assistant, through ignorance, allows inferior material to be put in the building. Is the Architect liable to the employer for this fault of his assistant?*

Answer 4.—An Architect may employ assistance in his work, but he may not delegate his entire duty to another, and he is liable for the faults of his assistants.

Section III.—PRACTICE.

Subject c.—QUANTITIES AND PRICES.

WORKED ANSWERS by W. R. MALLETT, F.S.I., Examiner.

Question 1.—Square or cube the following dimensions: showing your working in detail.

$$\begin{array}{r} 2 \overline{) 5 \cdot 3 \cdot 1} \\ \underline{2 \cdot 7 \cdot 6} \\ 2 \cdot \end{array}$$

$$\begin{array}{r} 3 \overline{) 3 \cdot 15 \cdot 4} \\ \underline{12 \cdot 0} \\ 6 \cdot 6 \end{array}$$

$$\begin{array}{r} 3 \overline{) 1 \cdot 21 \cdot 8} \\ \underline{1 \cdot 8 \cdot 6} \end{array}$$

$$\begin{array}{r} 4 \overline{) 18 \cdot 12 \cdot 0} \\ \underline{72} \\ 24 \end{array}$$

$$\begin{array}{r} 2 \overline{) 10 \cdot 0} \end{array}$$

$$\begin{array}{r} 5 \cdot 0 \\ \underline{16 \cdot 0} \end{array}$$

Answer 1.

$$\begin{array}{r} 2 \overline{) 5 \cdot 3 \cdot 1} \\ \underline{2 \cdot 7 \cdot 6} \\ 2 \cdot \end{array}$$

$$\begin{array}{r} 7 \cdot 6 \\ 9 \\ \underline{67 \cdot 6} \\ 2 \overline{) 3 \cdot 1} \\ \underline{6 \cdot 2} \\ 405 \cdot 0 \\ 11 \cdot 3 \\ \underline{416 \cdot 3} \end{array}$$

$$\begin{array}{r} 4 \overline{) 18 \cdot 12 \cdot 0} \\ \underline{72} \\ 24 \\ \underline{121 \cdot 6} \\ 18 \cdot 9 = 13 \cdot 6 \\ \underline{12 \cdot 0} \\ 162 \cdot 0 \\ 4 \overline{) 24} = 6 \\ \underline{81 \cdot 0} \\ 40 \cdot 6 \\ \underline{121 \cdot 6} \end{array}$$

$$\begin{array}{r} 3 \overline{) 3 \cdot 15 \cdot 4} \\ \underline{12 \cdot 0} \\ 6 \cdot 6 \\ \underline{10764 \cdot 0} \end{array}$$

$$\begin{array}{r} 9 \overline{) 15 \cdot 4} \\ \underline{138 \cdot 0} \\ 12 \cdot 0 \\ \underline{1656 \cdot 0} \\ 6 \cdot 6 \\ \underline{9936 \cdot 0} \\ 828 \cdot 0 \\ \underline{10764 \cdot 0} \end{array}$$

$$\begin{array}{r} 2 \overline{) 10 \cdot 0} \\ \underline{78 \cdot 6} \\ 10^2 = 100 \\ \underline{78 \cdot 5400} \\ 12 \\ 2 \overline{) 12} = 6 \\ \underline{6 \cdot 4800} \end{array}$$

$$\begin{array}{r} 5 \cdot 0 \\ \underline{16 \cdot 0} \\ 314 \cdot 2 \end{array}$$

$$\begin{array}{r} 7854 \\ 5^2 \\ \underline{39270} \\ 5 \\ 19 \cdot 6350 \\ 4 \times 4 = 16 \\ \underline{785400} \\ 4 \\ \underline{314,1600} \\ 12 \\ \underline{1,9200} \end{array}$$

$$\begin{array}{r} 3 \overline{) 1 \cdot 21 \cdot 8} \\ \underline{8 \cdot 6} \\ 368 \cdot 4 \end{array}$$

$$\begin{array}{r} 4 \overline{) 1 \cdot 21 \cdot 8} = 2 \\ \underline{8 \cdot 6} \\ 346 \cdot 8 \\ 21 \cdot 8 \\ \underline{368 \cdot 4} \end{array}$$

Question 2.—*Prepare the following items in an abstract for "billing."*

Dig fill and ram.	Brickwork in Mortar.				
	Cube	$\frac{1}{2}$ B.	1 B.	$1\frac{1}{2}$ B.	1 B. ddt.
1480·6					
270·4	480·0	438·6	536·2	1648·0	296·4
1327·2		272·8	317·4	1224·6	182·6
		16·4	836·6	184·0	42·2

6 in. by 6 in. Burslem tile paving.	Render float and Set.		6 lb. milled lead.	
		Ddt.		5 lb. do.
462·8	1534·6		651·4	124·8
384·4	1429·4	96·0	36·0	58·10
	434·0	84·4		79·4
	24·2	64·8		29·4

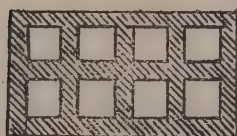
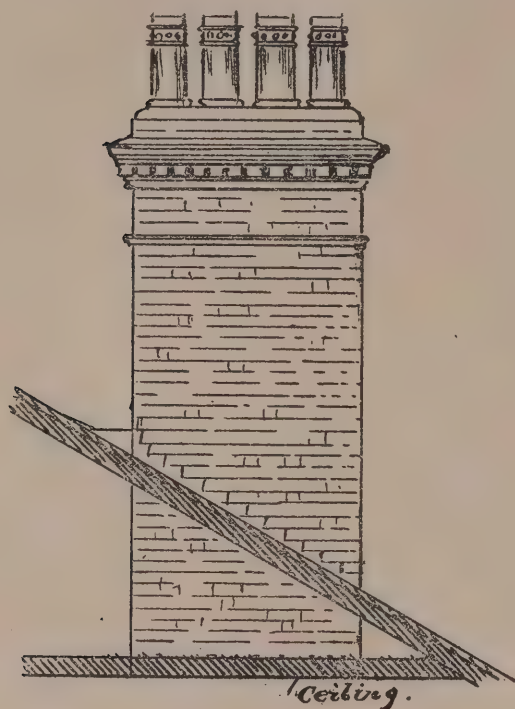
Answer 2.

Abstract.

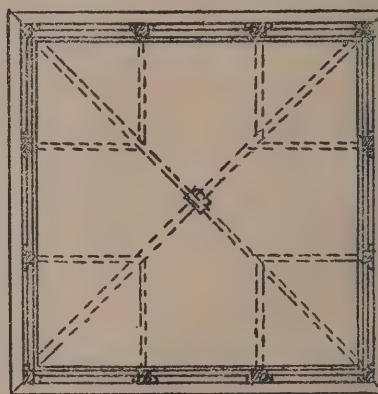
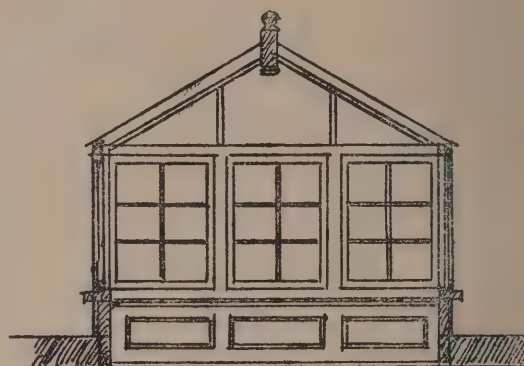
Dig fill and ram.	Brickwork in Mortar.				
	Cube.	$\frac{1}{2}$ B.	1 B.	$1\frac{1}{2}$ B.	1 B. ddt.
1480·6					
270·4	9/480·0	438·6	536·2	1648·0	296·4
1327·2	53·4	272·8	317·4	1224·6	182·6
9/3078·0		16·4	836·6	184·0	42·2
3/342	red. 426·8	3/727·6	1690·0	6/3056·6	521·0
	" 242·6	242·6	521·0	509·5	
114 yds. cube.	" 779·4		3/1169·0	2547·1	
	" 2547·1		380·8		
	272/3995·7 (14 rods.				
	272		779·4		
	1275				
	1088				
	187 ft. red.				

6 in. by 6 in. Burslem tile paving.	Render float and Set.		6 lb. milled lead.	
		Ddt.		5 lb. do. do.
462·8	1534·6		651·4	124·8
384·4	1429·4	96·0	36·0	58·10
9/847·0	434·0	84·4		79·4
	24·2	64·8	812·0	29·4
94 yds.	3422·0		6 lb.	167·6
	245·0	245·0		5 lb.
	9/3177·0		4872	
	353 yds.		838	838
			112/5710 (50	
			560	
			28/ 110 (3	cwt. qrs. lbs.
			84	50 3 26
			26	

Question 3.—Take off the Quantities for the Bricklayer's Work of the chimney stack shown in the sketch, from the ceiling line : to be built in cement, and finished with pots, etc. : providing what you consider necessary and suitable for a country house.



$\frac{1}{4}$ " Scale.



$\frac{1}{4}$ " Scale.

Answer 3.

Chimney Stack.

4.11	$3\frac{1}{2}$ B. in Mortar and extra only	16.6	$\frac{1}{4}$ add.	5.3
11.6	in Cement.	.3		5.3
			and add.	3.0
17.10	$\frac{1}{2}$ B add.	5.7		3.0
.9		3.4	Necking.	16.6
	and add.	3.4		
	Cornice.	17.10		

15·2	Extra only, over stock	4·11	16·6	Extra only to Messrs. ———
8·0	bricks, to facings in red	4·11	—	& Co.'s No. 4 molded red bricks
—	kiln bricks, finished with	2·8	—	set as necking 3" deep, com-
—	a neatly struck joint as	2·8	4	plete as in last item.
—	the work proceeds.	15·2	—	Mitred angles to ditto.
17·10	Extra only to Messrs. ———	—	2/4	Messrs. ——— & Co.'s No. 30
—	& Co.'s bricks, forming cornice	—	—	Chimney pots 27" high in red
—	9" deep, No. 5 as bedmold, No.	—	—	Terra Cotta, set in cement
—	10 as dentil course, and No. 6	—	2/4	with splayed weatherings, etc.,
—	as corona, as sketch, and in-	—	—	complete.
—	clude for neatly struck joints	2/2·8	—	Parquet and core flues.
—	and cement splay on top com-	—	—	—
—	plete.	2/6·0	—	—
4	Mitred angles to ditto.	—	—	—
—	—	—	—	—

Question 4.—Take off the "dimensions" for a lantern light placed on a flat roof, as per sketch, with glass roof, part of the sides to open for ventilation; providing all necessities in all trades, as you think suitable.

Answer 4.

Lantern.

4/7·6	Fir framed in curb, fixed	4/1	Extra to hanging sashes
·8	in flat.	—	for ventilation.
·4	—	4/1	Pair 3" C.I. butts.
4/7·9	7" x 3½" oak wrot, fd.	4/1	Messrs. ——— & Co.'s
—	sunk wd. and throated	—	patent fanlight openers
—	and grooved, fixed as	—	No. 8, in brass, with
—	sill to lantern.	—	flaxlines (10yds. long),
4	Mitred angles to ditto.	—	brass pullies and cleat,
—	—	—	etc., complete.
2/4	½" W. I. bolts 21" long	4/6·9	3" girts, deal molding to
—	with heads and nuts,	—	detail, tongued to sill
—	and include for holes	4/1	inside.
—	and fixing to secure sill	—	Mitred angles to ditto.
—	to curb.	1·6	—
4/3·3	Fir wrot all round, fd.	·4	Fir wrot and fd., etc., a. b.
·4½	and pinned, twice	·4	vane post.
·4½	rebated and beaded,	—	—
—	frames for lights angle	1	Turning ball finial to 4"
—	posts.	—	x 4" vane post.
4/2/3·3	Add mullions.	1	Do. rosette at bottom 4"
·4½	—	—	dia.
·3½	—	4/6·6	4½" x 3" deal, wrot all
—	—	—	round and fd. hips, 2 s.
4/7·3	Add heads.	—	rebated and rounded on
·4½	—	—	top molded two edges
·3½	—	—	and worked to detail.
—	—	—	Shaped ends to ditto.
4/2/2·10	Labour to ½" staff bead	4/1	—
—	angle posts.	—	—
4/2/2·10	Add mullions.	4/2/3·3	3" x 3" dl. wrot all round,
—	—	—	fd., molded 2 edges,
4/6·9	Add head.	—	and worked to detail.
—	—	4/2/3·0	— & Co.'s Simplex
4/3/2	Mitred angles to ditto.	—	glazing bar No. 3, and
—	—	—	fixing with coat of
4/3/2·2	2" deal molded sashes with	—	white lead, bars, nails,
2·10	bars, to detail fixed in	—	etc.
—	lantern.	4/2/6·0	Add on hips.
—	—	—	—

4/2/2.6 3.0	Glazing skylight with Hartley's $\frac{1}{8}$ " rolled ribbed glass, sides.	4/3/4	Mitred angles to ditto.
4/2.6 4.9	Do. do. centres.	4/6.10	$\frac{1}{4}$ " staff beaded angle, in Keene's cement, on bottom edge.
4/6.3 .6	5 lb. lead covers to hips, dressed round roll and into Simplex bar.	4/1	Mitres to ditto.
4/1	Ends of ditto dressed into grooves in vane post, and include for grooves, etc.	4/7.6 1.6	Size and twice distemper, in "Duresco," the panels as above.
4/1	Ends dressed at bottoms of hips.	4/3/2.6	4 os. on square one side.
4/3/1.10 2.6	21 oz. sheet glass in sashes, under 2' in a square.	4/7.6 1.4	4 os. on sill.
4/7.6 .9	Inch deal boarding for lead, under sill, and include for $4\frac{1}{2}$ " x 2" studding, framed to curb and sill, etc., com- plete.	4/3.0 1.5	Add angle posts.
4/6.9 1.4	Mem.—Leadwork for this is taken with flat.	4/7.0 1.4	Add mullions.
	Expanded metal lathing and rendering in Port- land cement, faced with Keene's, for panels in wellhole.	4/6.0 1.4	Add heads.
	1.9 1.9	4/2/3.3 1.0	Add hips.
4/3/4.6	2" girt molding in Keene's cement, on ditto, to detail, to form panels.	1.6 1.4	Add bars.
			Add vane post.
		1/	Clean all glass to lantern, inside and out, on com- pletion, and leave all perfect.

Question 5.—Write a bill containing the following items, giving full descriptions of work, etc., and put the prices ruling in your own district, which must be named.

Greystone lime concrete (6 to 1) in foundations. Facings in red kiln-burnt bricks. Paving of 10" red tiles on concrete. Bath stone in plain work, dressings, etc., averaged. $2\frac{1}{2}$ " York stone hearths. 4" York stone landings. Bangor Countess slating to roofs, copper nailed. Plain tiling to roofs Burslem tiles, and include for lathing. 9" by 3" yellow deal, 7" by $2\frac{1}{2}$ " battens. Oak park-paled fencing 4' high $\frac{3}{4}$ " oak parquet flooring. Spring hinges (double swing) for 2" doors. Plaster molded cornices. Rendering in Portland cement.

REPAIRS.—Wash, stop and twice whiten ceilings. Wash, stop and distemper walls in "Duresco." Strip, stop, size and repaper walls (common). Prepare and paint two coats.

LABOUR.—Daywork prices. Bricklayer, Labourer, Mason, Carpenter and Joiner, Plumber, Plumber's Mate, Painter.

Answer 5. Bill. District, Southern Suburb of London.

yds.	ft.			£	s.	d.
		cube	Concrete composed of greystone lime and angular gravel, in the proportion, by measure, of one of lime to six of gravel, well mixed and deposited in foundations; well consolidated in the trenches, and finished on top with a "shovel face" for the footings ..	12/6		
		supr.	Extra only over stock brickwork to facings in hard red kiln-burnt bricks of good colour, with the mortar joints finished with a neatly splayed edge as the work proceeds ..	4d.		
		"	Paving of 10" square local red tiles, bedded in mortar and grouted in cement, and include for a bed of cement concrete (as above) 4" thick and levelling the surface of the ground, etc., complete ..	5/6		
		cube	Monk's Park Bath stone, and all labour in working, hoisting and setting, etc., as plain dressings, quoins, string courses, etc. Worked to detail, complete ..	5/6		
		supr.	2½" York stone hearths, rubbed top and jointed all round, bedded in mortar ..	1/6		
		"	4" hard York stone landings, rubbed top, and include for hoisting and setting ..	3/6		
sqrs.		supr.	Cover roofs with Bangor (Dinorwic) blue Countess slating, laid with a 2½" lap, and secured by two 1½" stout copper nails to each slate ..	37/-		
		"	Cover roofs. Burslem plain tiles, with a slightly curved face, nibbed and holed, laid to a 4" gauge, and each fifth course to be secured by 1½" galvanized stout nails; each course to have a slight bed of lime and hair mortar near the top edge, as may be directed, and include for 1½" x ¾" sawn yellow fir lathing, etc., complete ..	45/-		
		run	9" x 3" yellow deal (day-work price, no labour) ..	6d.		
		"	7" x 2½" yellow fir battens (day-work price, no labour) ..	4d.		
rods		"	Oak park pailing 4' high above the ground, with 5" x 4" posts, with good butts and splayed heads; three stout arris rails; 7" x 2" gravel planks, with intermediate stakes and cleft pales. All neatly framed and put together and secured by galvanized wrot-iron nails, the butts to posts and the gravel planks to have two coats of Stockholm tar. Include for digging post holes, filling and ramming, etc., etc., complete ..	38/-		
		supr.	Cover floor with ¾" oak parquetry, laid herring-bone pattern, with selected border No. 1 in Messrs. — & Co.'s list, to be executed by their workmen on their patent system. The floor to be carefully levelled and cleaned off when completed, and wax polished. (Note.— The ordinary deal under-flooring to be prepared for the above by the contractor) ..	1/3		
yds.		No.	Sets Messrs. — & Co.'s patent double-action adjustable floor springs for 2" doors. No. — and medium strength, with brass shoes and heavy brass top centres with steel pivot pins, and include for fitting and fixing complete ..	37/6		
		supr.	Plaster molded cornice worked to detail ..	1/2		
		"	Rendering in Portland cement, plain faces ..	2/6		

		Repairs.	£	s.	d.
	supr.	Wash, stop, and twice whiten ceilings	4d.		
	"	Wash, stop, and twice distemper walls in " Duresco"	6d.		
No.		Pieces. Strip, stop, size and re-paper walls with ordinary paper, at 1/6 per piece, pattern book prices	3/3		
	supr.	Properly prepare and paint two coats of common colours, on ordinary work	9d.		
Labours. Day-work prices at per hour.					
Bricklayer 1/-, labourer 9d., mason 1/1, car- penter and joiner 1/-, plumber 1/1, plumber's mate 8d., painter 10½d.					
			£		

Architectural and Topographical Society.

We have received from Mr. Wilfrid Travers, A.R.I.B.A. (General Hon. Secretary), an appeal for help in a work which is described as one of National interest, namely, that of making complete Historical records of the Ancient Buildings of these islands, from the introduction of civilization to the year 1800.

The need for such a work is obvious, and this Society by recording the present state and the nature of the buildings and the monuments, is able to some extent to counteract the effects of vandalism, and owing to the low rate of the subscription (*i.e.*, 10s. 6d. per annum), and the consequent accessibility of its publications to all, there is a potential educational value in its work.

Since the foundation of the Society, rather more than twelve months ago, complete accounts of the buildings in seventeen parishes have been published, and many of the leading Societies interested in this subject, including The Society of Architects, are now subscribing.

There are at present some twenty parishes partly completed, in addition to those already published, and several more are definitely promised. The fact that the Society can obtain work of this nature entirely gratuitously shows how greatly the need for such records is felt by those who have expert knowledge of the subject.

The recent appointment of Royal Commissions to make an inventory of the ancient monuments of England, Scotland, and Wales shows that the State appreciates the need for such work; and by its terms of Reference, the Commission is only intended to make an inventory, and does not in any way cover the ground of this Society's labours.

The other part of the Society's work which includes the collection of carefully made record drawings, notes and photographs, etc., is progressing, and all the work done for the Society is purely honorary—therefore its funds are expended entirely on the work, and not in any way upon the workers.

The minimum sum of £500 is required to ensure the effective continuation of the work of the Society.

The appeal has the support of The Earl of Plymouth, Lord Avebury, Sir Aston Webb, R.A., Mr. Francis Bond, Mr. J. A. Gotch, Mr. Emslie J. Horniman, M.P., Mr. Thos. G. Jackson, R.A., Mr. Mervyn Macartney, and Mr. Edward S. Prior, who ask that all who take an interest in the history of their country should help the work in some degree. Subscriptions and donations should be made payable to the Society, and crossed "London and County Bank."

Donors of half a guinea or more will receive the Record for the current year, whilst those of seven guineas and upwards will be entered on the Society's list of Life Members.

Communications should be addressed to the offices of the Society at 33, Old Queen Street, Westminster, S.W.

Mainly about Members.

The foundation stone of a new Vicarage was laid at Tregaer last week. The architect is MR. ERNEST G. DAVIES, of Hereford and Monmouth.

At a recent meeting of the Council of the Quantity Surveyors' Association, MR. H. T. A. CHIDGEY was elected President for the ensuing year.

A new Wesleyan Methodist chapel and school is being erected at Yealmpton, at a cost of £1,090. Mr. F. A. WIBLIN, of Plymouth, is the architect.

The Shirehall, Carmarthen, has been reopened after alterations and decorations from the designs of MR. W. VINCENT MORGAN (County Architect).

The Romford District Education Sub-Committee have decided to erect a new elementary school. MR. A. S. R. LEY, London, has been appointed architect for the work.

The extensions at the Cunningham Combination Poor house, at Irvine, have been completed. The new buildings include a board room, governor's office, and probationary wards, and have cost £5,000. MR. HAY was the architect.

A new church, which will be known as All Saints, is in course of erection at Queen's Park, Bedford. Sir Arthur Blomfield & Sons and MR. GEORGE P. ALLEN are the architects.

An Unsectarian Mission Hall is in course of erection in Besson Street, New Cross. The cost of the new building will be £1,300. MR. J. HALSTED WATERWORTH, of New Cross Gate, is the architect for the work.

The Wesleyan Methodists of Askam-in-Furness are building a new church in Duddon-road. MR. HENSHAW, of Blackburn and Burnley, has been appointed architect. The new building is to seat 280 people, and is being built of brick, with terra-cotta dressings, and will be pebble dashed. The specifications provide for a scheme of heating on the low-pressure system.

A well-attended meeting was held at Cardiff on June 18th, in Messrs. Lanchester and Rickards' New Law Courts, to consider the formation of the Guild of Architects' Assistants, Mr. Lumsden, presiding. Mr. E. J. Dixon, A.R.I.B.A., London, founder of the Guild, delivered an address in favour of establishing a branch of the Guild for South Wales and Monmouthshire. He pointed out the practical advantages of unity. A provisional committee was then re-elected, with power to co-opt others, MR. S. BOWEN WILLIAMS (Student), of 110, Miskin Street, Cardiff, being appointed Hon. Secretary.

The opening has taken place of new buildings at the Chelmsford and Essex Hospital and Dispensary. The extensions include two new wards on the west side of the old main building, containing twelve and fourteen beds respectively, together with

sanitary annexe. On the east side are the new sanitary departments and ward kitchens. At the rear are the new out-patients' departments, casualty ward, and waiting rooms on the ground floor, and on the floor above two isolation wards and nurses' rooms. A new X-rays room has been built. The work has been carried out under the direction of Mr. W. H. PERTWEE, architect, of Chelmsford.

The opening has just taken place of the Hunslet Moor Council School, Leeds, by the Lord Mayor, Alderman F. J. Kitson. The School consists of two blocks, one of which provides accommodation for girls on the ground floor, and boys on the upper floor, the other providing for infants on the ground floor, and containing handicraft, cookery, laundry, and housewifery centres on the upper floor. A central hall has been provided for each department, and the classrooms are mostly arranged to accommodate sixty children. The School has been built with local bricks and stone, under the supervision of the Committee's Architect, Mr. FRED BROADBENT. The total cost of the site, buildings, and fittings will be about £20,000.

The church of Rockland St. Peter, Norfolk, was recently reopened after restoration. The tower, which has been repaired, is circular on plan, developing into an octagon at the top stage, as in other East Anglian churches. When the architects, MESSRS. LACEY and Upcher, of Norwich, were called in to report, it was found to be extremely dilapidated. The walls have been banded together and strengthened, the stonework restored, decayed timbers replaced by new ones, the lead recast and relaid. A new vestry has been built on the south side of the nave, and the old north porch restored, the ancient brickwork of the coping, string-courses, and plinths having been retained, similar brickwork having been added where missing to keep the old character of the work.

Additions to the Library.

The Hon. Librarian desires to acknowledge with many thanks the following presentations.

TITLE.	PRESENTED BY.
The Abbey Church of St. Albans (<i>Neale</i>)	THE EXECUTORS.
Academy Architecture, 1909 (<i>Koch</i>)	THE PUBLISHERS.
The Architect's Referendum (<i>Freeman</i>)	" "
A History of the Singer Building Construction (<i>Lemsch</i>)	THE COMPANY.

Meetings and other Fixtures of the Society.

Subject to such alterations and additions as may be announced from time to time in the "Journal" or by circular.

- Aug. 27th. Mr. Middleton's Sketching Tour in Northern France.
Sept. 2nd. Council Meeting. House List, 1909-10, etc.
,, 11th. Students' Sketching Party (place to be announced).
,, 21st. Entries for Home Examination close.
Oct. 1st. Last day for submitting result of Travelling Studentship Tour.
,, " Last day for receiving nominations for Council.
,, 5th, 6th and 7th. Examinations for Membership.
,, 14th. Twenty-fifth Annual General Meeting.

Annual General Meeting.

The Twenty-fifth Annual General Meeting of The Society of Architects will be held at Staple Inn Buildings (South), Holborn, W.C., on Thursday, October 14th, 1909, at 8 p.m.

Agenda :—

1. The President to take the chair.
2. Minutes of the last Annual General Meeting.
3. Nominations for Membership.
4. Announcements.
5. Ballot for candidates for Membership.
6. Council's Annual Report.
7. Election of Officers and Council, 1909-10.
8. Votes of thanks.

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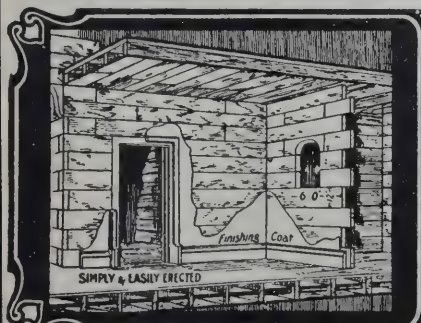


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Wharf, Cumberland Road, Bristol. Mr. Charles Keyworth, Britannia Buildings, Town Hall, Leeds. Messrs. Crosier, Stephens & Co., 2, Collingwood Street,
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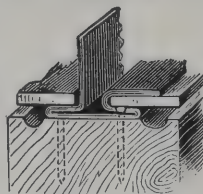
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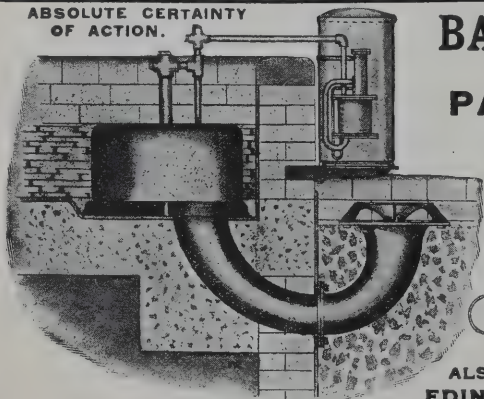
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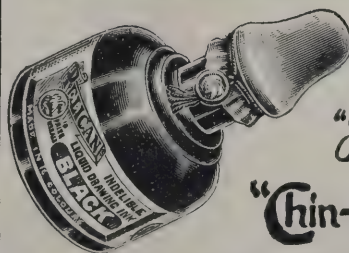
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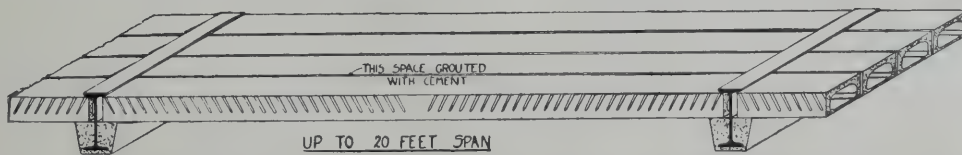


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The Society is not, as a body, responsible for the opinions expressed by individual authors and speakers.

Transvaal Institute of Architects and Registration.

Tribute to The Society of Architects.

Mr. Walter Reid, F.R.I.B.A., in his valedictory address says :—It was in July, 1907, that the matter of registration of architects was first mentioned ; so that it has taken us just two years to bring it to fruition. The members of the Institute at sundry general meetings were pleased to confirm the programme mapped out by the council, and to sanction the excellent financial programme prepared by Mr. Waugh. The universal support given to this proposal and the entire absence of opposition from any source I consider the best possible recommendation it could receive. Particularly gratifying to us all must be the substantial financial, as well as the moral support the proposal has received from The Society of Architects of London and its South African Branch ; the extremely generous contribution made by those bodies towards the heavy costs incurred was an original conception of Mr. Waugh's ; to whom (and the Society he represents) the most hearty thanks of every member of this Institute is due, and to whom I must take this opportunity of expressing my appreciation and personal indebtedness. I have also to thank the President of the Master Builders' Association for the very material assistance rendered by him in giving evidence before the Select Committee of the House in favour of our application for registration of architects. The results of our application for registration prove the Government's good intentions towards the country and our profession, the prosperity of both being dependent upon a suitable recognition by the Government, and municipal services and big corporations throughout the land.

Elementary School Planning.

Mr. Reginald G. Kirkby, A.R.I.B.A., F.S.I., City Architect, Bradford, in a paper read at the Leeds Health Congress, said the vitally important question of school planning is entering upon a new era. This is due to a growing dissatisfaction with existing models, and an increasing recognition of the need for housing children under better conditions during their school life.

For some years past architects have offered to Authorities practically only one type of school, viz., the central hall type, with a series of classrooms arranged round two or more sides of a Central Assembly Hall. The calling for the submission of competitive designs from architects has, doubtless, been greatly responsible for the adoption of this type, to the exclusion of buildings of a more suitable character.

Whatever be the reason, it must be admitted that, in contrast with the originality and excellence of modern English architecture generally, school planning has tended to become so stereotyped that we find only one type of school building erected, in town and country alike, on the hillside and the plain indiscriminately, with little regard either to local conditions or educational requirements.

The advantages which may have been claimed for existing models are quite outweighed when consideration is given to the question of the children's health, and to the unsuitability of the buildings in relation to modern teaching methods and hygienic science.

The growing desire for healthier and better adapted schools has led, in a few instances, to the adoption and development of improved types of buildings, and noticeably so where City and County Authorities have had the opportunity of consultation and investigation with their own official architects.

Plans of schools recently erected or in progress in Staffordshire and Derbyshire, and at Letchworth and Bradford, are illustrations of these newer types. In these improved schools a detached assembly hall is provided, adequate to meet the growing need for physical instruction, and the classrooms are so arranged as to enable them to be from time to time flushed or scoured with fresh air, as well as at all times to be provided with cross-ventilation. In such schools children can be taught to love fresh air as nature intended they should, instead of their being compelled to sit in rooms with closed doors and windows, breathing impure air, many times fouled.

The provision of facilities for bathing in connection with these newer schools is a noticeable and welcome feature. Cleanliness should become a national virtue, and this can best be inculcated through the medium of school baths. Ideas of cleanliness learnt at school will be carried into the homes, and must have a far-reaching effect upon the rising generation.

Spray baths would appear to be the best type, with an occasional douche and slipper bath.

The regrettable amount of physical deterioration which is admitted to exist makes it highly desirable, if not even imperative that open air schools should be more extensively adopted, and the great benefits already derived from experimental open air schools warrant their wider adoption. Far better that debilitated children should, through open air schools, be given a chance to live, and grow and develop, than that through inattention they should be allowed to drift into schools for the mentally defective, or otherwise become a burden to the ratepayers, possibly for life.

Open air schools should provide resting sheds, classrooms, teaching verandahs, baths and dining hall, with well equipped kitchen quarters, and other offices. A new school of this type just erected at Bradford will accommodate 120 scholars.

In a reflex way the principles embodied in the construction and working of open air schools are tending to revolutionize school planning generally. Hitherto, school sites have often been selected without due thought being given to any consideration other than the cheapness or otherwise of the land.

Land which costs little in money, it should be remembered, is not always cheap. In future, the *suitability* of the site for the purpose to which it is to be applied will become, more and more, a determining consideration.

Then in regard to construction, the floor area of classrooms should be graded to suit the scholars. To assume that what is suited to a child of six is equally suitable for one of twelve is an absurdity. In any case a classroom should not be arranged to accommodate more than 40. This should be a class limit.

A large, single window, without heavy mullions, and almost the full width of the classroom gives the best light.

If more fresh air be introduced naturally, a larger heating surface will be required to warm the room. But, it will be found that children get used to the fresh air, and do not feel the cold so much if a plentiful supply is maintained.

Schools of the type illustrated practically ventilate themselves, and by their adoption some 30s. to £2 per scholar is to be saved on the central hall type, the latter requiring necessarily, some mechanical means of ventilation to maintain anything like a reasonable standard of atmospheric purity.

It should be also borne in mind that cloak rooms should be numerous rather than large; that they should be well lighted and ventilated, top-lighting being preferable, and that they should be effectively heated in cold or wet weather. The usual 6 in. space per scholar is too small an allowance, especially in the girls' school.

All new efforts in school planning should embody provisions to meet the varied requirements under the recent Acts instituting Medical Inspection in Schools and the Feeding of Necessitous Children.

Whilst these principles of school planning will be expanded as they become more assimilated, yet Education Authorities should not hesitate in adopting them, notwithstanding the fact that in some cases a somewhat larger initial outlay may be necessary.

Where this is the case, however, it will soon be realized that the compensating advantages to teachers, and the increased physical and educational attainments of the scholars, will far outweigh the other and merely temporary consideration.

The justification in the adoption of such principles will not be confined to architects and authorities alone, but is sure to meet the approval of the nation at large. For what can be more supreme folly than to neglect the units of the race in the earlier stages of their development, only to be burdened with them at a later stage in life as physically stunted and mentally dwarfed inmates of asylums, hospitals, prisons or workhouses.

Review.

The Building Foreman's Pocket Book and Ready Reference. By H. G. Richey. New York: John Wiley & Sons; London: Chapman & Hall. First Edition, 1909. 16 mo, 1X + 1118 pp., 656 figures. Limp morocco, price \$5.00.

The author has written a series of handbooks for mechanics in the various trades pertaining to building construction, several of which have been reviewed in these columns; he now combines them all in a book for builders' foremen with the addition of an introductory chapter on the duties of foremen. He gives a chart showing the working organisation on contract work, based as will be seen on American practice, because he does not mention a clerk of works, but puts in an "architect's superintendent" as the equivalent, otherwise it does not differ materially from English practice. Some good hints are given as to the manner in which a foreman should carry out his duties, and he is especially cautioned not to depart from the drawings and specification, even to make an obvious improvement, without first consulting the architect or his superintendent. A good foreman looks ahead to get his material delivered, and prevent the men from "nursing" their job while waiting for the next delivery. The setting out for the foundations of a building is a matter of some difficulty and responsibility for a young foreman, and many useful hints are given. The Building Code of the National Board of Fire Underwriters gives the following rules for building stone walls:—"All stone walls 24 inches or less in thickness shall have at least one header extending through the wall in every 3 feet in height from the bottom of the wall, and in every 3 feet in length, and if over 24 inches in thickness shall have one header for every 6 superficial feet on both sides of the wall, laid on top of each other to bond together, and running into the wall at least 2 feet. All headers shall be at least 12 inches in width and 8 inches in thickness, and consist of good flat stones. No stone shall be laid in such walls in any other position than on its natural bed. No stone shall be used that does not bond or extend into the wall at least 6 inches. Stones shall be firmly bedded in cement mortar, and all spaces and joints thoroughly filled." The various trades in which the author gives useful details are excavator, mason, bricklayer, concretor, plasterer, carpenter, plumber and miscellaneous, but the terms used and the mode of carrying out the work differ in many respects from what we are accustomed to, although a mass of valuable information may be gleaned from the book. The "hustling" of American work may be gathered from the statement that "One man with one tender will lay 1,000 to 1,500 bricks per day." A misprint occurs on p. 415, where the point of maximum density of water is given as 30° F. instead of 39° F.

The Value of Intercepting Traps on House Drains.

Mr. A. E. Hudson, M.R. SAN. INST., Chief Sanitary Inspector, Cheltenham, in a paper read at the Leeds Health Congress, said the modern intercepting trap was introduced into the model bye-laws of the Local Government Board in 1877, so that these traps may be said to have been in recognized official use for the last 32 years. During recent years objections have been urged against their use, and it has been proposed to remove them in order to ventilate the sewers by the soil pipes.

Intercepting traps have been objected to on the following grounds :—

They are practically cesspools for manufacturing sewage gas, impede the free flow of sewage, frequently cause the drains to block, do not effect their supposed object of being a safeguard to the house, the air inlets to the drains are frequently a nuisance or injurious to health, they make safe and effectual ventilation of drains and sewers impossible, and cause a great waste of water.

Provided the traps are judiciously selected and properly fixed they bear no relation to cesspools. Many interceptors are improperly fixed, of bad shape, and much too large for the work they have to perform. Many of the 6 in. traps in use not infrequently contain as much as three to four gallons of water, and one can readily understand that such a trap cannot possibly be cleared with a discharge from a two gallon flushing cistern. A good type of 4 in. trap with a 2 in. seal and a 3 in. cascade action will be found to contain only 3½ pints of water. Long experience of these traps has proved their efficiency, and when properly fixed, they fulfil their purpose well.

It is said that the interceptor is frequently the cause of stoppages in the drain. This statement is not borne out by actual working experience. There are some ten thousand interceptors in use in the town of Cheltenham, and not more than two per cent. of the stoppages in drains are found to be caused by the interceptor.

The cause of most stoppages in interceptors will be found to be due to :—

Excessive size and bad make of traps, improper and careless fixing, drains laid at improper levels causing accumulation of sewage, the cap on cleansing arm being insecurely fixed, with the result that it is found to have been blown out, and fallen down into throat of trap, insufficient and irregular flushing of water closets, a good trap being choked with foreign matter which ought not to have found access to the drains.

The conclusions to be drawn from the foregoing are :—

That the disadvantages of the trap have been greatly exaggerated, that interceptors of suitable size and shape, properly fixed, are of great value in preventing sewer gases passing into the house drains, in most cases when the trap causes trouble, it is due to conditions which have no right to exist, the ventilation of sewers through private house drains is too dangerous an expedient for general recommendation, and is not the proper mode of ventilating sewers, the abolition of the trap is not called for on account of blocking of drains.

Measuring Buildings and Measured Drawings.

In taking measurements from actual buildings for the purpose of making measured drawings, the instruments required, says the *Building News*, are few and of an ordinary character, such as every architectural student possesses. Besides tape, a pair of calipers, and a two-foot-rule, little more is needed than a couple of 5 ft. rods. By producing the angles of large mouldings and cornices with one of these (laying flat with wall or soffit), it will be found more accurate to measure the set-offs of the various mouldings from it by means of the other than by using the tape, which is often likely to be held a little out, especially if working single-handed. The greatest accuracy, where extreme precision is required, is doubtless that obtained by means of plumb-bob and line, dropped from the various members to the rod beneath. A large set-square, such as used by builders, will also be found extremely useful at times, in the latter case. A large pair of calipers are also essential for taking accurate measurements of the hollows in Gothic work, and of the small columns, and the bowtel mouldings which so frequently occur.

When commencing any work, all the main measurements should be taken first as running dimensions—that is, from the starting-point, with larger scale details fully dimensioned, of the various mouldings, cornices, caps, and ornaments. Where it is impossible to obtain a running dimension throughout, owing to a projecting colonnade, or some similar structure, the heights must, of course, be then taken in two or more lines of figures. Should there also be a fall in the ground level at the same time, it being necessary to take vertical measurements from various horizontal points, it is preferable to make the starting point for measurements either from a plinth near the ground line, where such exists, or from a chalk line datum drawn around the building so far as is necessary, by means of a straight-edge and spirit-level. In large work, such a straight-edge might be formed by a portion of match or floor-boarding, say about a 12 ft. length the edge being machined up true, which could be supplied by any good builder.

When taking vertical measurements, it may often be more convenient where ladders are unattainable to commence at the top, dropping the tape to the various heights, when, with a little aid, the chief measurements may be taken. It is, however, generally speaking, impossible to obtain thorough and accurate dimensions of large cornices without the aid of ladders, so in any extensive work, such as the measuring of a whole building, or even a single bay, where the façade consists of a series of repetitions, arrangements will have to be made with someone near for supplying these, there usually being no very great difficulty on this point. When measuring the various mouldings in detail it is advisable to adopt the same principle of running dimensions described, so far as possible, at the same time taking great

care that the total figure—for instance, the depth of a cornice—agrees with that given on the smaller scale in the vertical running dimensions. Scarcely too many detail sketches, with measurements, can be taken. It is far better to have plenty than not enough, unless plotting work on the spot, which can, as a rule, only be managed with minor parts in some quiet position, which occasionally admit of being so treated, or, in some instances, interior work. Otherwise it is quite possible that some points may be overlooked for the time being.

There is nothing more annoying with this class of work than to find that what proves ultimately to be some very requisite piece of detail, or a measurement or two, missing, when one comes to plot out a building which, if not altogether inaccessible again, is so for the time being. The student, however, bearing this point fully in mind, and both sketching and measuring his detail completely and thoroughly, will have no necessity to return again at some future date, possibly at some very considerable inconvenience, to decide a point which has been overlooked. To make such omissions is not a very difficult matter, especially if any attempt has been made to hurry over the work. This is, however, always a bad plan, almost invariably leading to a few return visits. In consequence, the necessity of taking one's time, and of doing the work most carefully and very thoroughly, must be fully appreciated from the commencement. The best method for the novice when commencing his first attempts at measured drawings undoubtedly is to do a little finished work, plotting it out on the spot, as he will thus readily apprehend what measurements are essential for the making of a full and complete set of drawings in every respect.

Architecture a Business or Profession ?

Mr. Justice Warrington in the case of *Robertson v. Willmott* has given a decision which is of interest to architects. Under a deed of partnership, dated November 7th, 1906, the plaintiff and defendant entered into partnership as architects and surveyors. There was a clause in the deed which enabled either party under certain circumstances to determine the partnership upon notice, but it was provided that if the dissolution took place within five years the defendant should not practise as an architect and surveyor within certain defined limits. The defendant within five years determined the partnership, and became assistant to an architect practising within the defined limits. The Court held that he was carrying on the profession of an architect in breach of the agreement, and granted an injunction. There appears, says the *Builder*, to be a distinction between carrying on a business and carrying on a profession as far as such covenants are concerned. A man may not be carrying on a business unless he is concerned in the profit or loss, but a professional man is exerting his profession whether he is using his professional skill for another at a fixed salary or whether he is practising on his own account.

The Training of an Architect.

Mr. C. F. Osborne, in a paper on the training of an architect which he read at the Annual Convention of the Ontario Association of Architects, Toronto, last January, defines architecture as the art of building, contrasting it, for illustration, with engineering, which is the science of building. He says, I cannot understand any other definition of an architect which will clearly differentiate him from all other professional men than that he is a designer of compositions which are to be executed in building materials. The fundamental difference between the architect and the engineer may be made clear by two examples taken from that vast field of building operations in which both the architect and engineer are engaged at their respective tasks. Let us first consider the case of a great dam, to be erected near the headquarters of a river, miles away in the wilderness. This is a typical engineer's task, and the only considerations which determine the lines of the structure are those which arise from meeting the stern demands for resistance to the mighty stresses of the stream in flood, taken in connection with the materials available for its construction and the opportunity for securing an adequate foundation. Every line of the profiles in plan, section, and elevation is determined by the strictest requirements of utility and economy. Let us take by way of comparison some structure completely typical of the architect's work—say a memorial monument. Here neither utility (in the engineer's sense) nor economy is concerned. Any materials the architect may regard as appropriate are at his command, quite regardless, or negligibly so, of considerations of the relative hardness or specific gravity of these materials, to each of which qualities the designer of the dam had to pay the closest attention. Every line of the memorial is determined purely as a matter of feeling, the architect having regard only to this question: "What effect or expression in the finished monument and its setting will be most appropriate to the time, place, and purpose of its erection?"

There is, of course, a neutral zone where the interests of the architect and the engineer commingle, and where co-operation is necessary. This has already taken place, under the pressure of enlightened public sentiment, in such matters as civic bridges, harbour approaches, railway stations, and the like.

The faculty which differentiates the architect from all other men engaged in the field of operations is the faculty of imparting to his structures, by means of the attributes derivable from form, colour, and texture, such an expression in each particular case as shall stir the beholder to an appreciation of the fact that the building is pleasingly and appropriately indicative of its function.

If ability to design be the distinctive test of the architect, the teaching of design must be the paramount objective of his course. On this point some strange proposals have been made. It has been suggested, for instance, that the *theory* of design should

be taught in the schools, and the *practice* of design—that is, the working out of design problems—should be under the direction of practising architects in the office. It has not needed some recent experiments in this direction to show that no good results can come from such a course of procedure.

There is only one effective method of stimulating the highest powers of the undergraduate for the solution of any design problem, and that is the method of teaching design which has come to be known as the French method.

This system is based upon the idea that the only way to learn to design is to design. Theories of design are not for undergraduates, and even when discussed by mature minds are usually unfruitful. Good design is purely a matter of feeling, which eludes definition but which can be cultivated by assiduous practice. Problem after problem must be presented for solution to the student, who must work under the eye of a master whose chief vocation is criticism in the atelier. The problems may be of as practical a character as you like, but worked out without too much consideration of how many tenpenny nails go to a pound.

The second question is, "What comes next in importance after design?" The fact that the architect uses building materials to develop his compositions might seem to place a study of these materials and their combinations next on the list. Mr. Osborne relegates this subject to third place in our curriculum, and rates drawing next. If we assign, on the total number of hours in any undergraduate architectural course, fifty per centum to design, he would allot twenty to exercises in drawing from the cast and from life, with an ancilliary course in modelling. Such practice greatly increases the students' powers in design, and though it is not always true that a good draftsman is a good designer, he had never known a poor draftsman who was so. Practice in drawing from the figure and modelling should continue during the entire course, so soon as the student, from his previous practice from the cast, is prepared to take them up.

We now come to the subject of building materials and construction, placed third in importance in the undergraduate course of study. Up to this point the subjects in the course have been included in the field of art. Construction, however, lies within the field of science, and from a pedagogical point of view its teaching must be undertaken in a different manner. Where the teaching of applied science is concerned, all experience goes to show that in his undergraduate studies the student should be thoroughly grounded in fundamental principles and theory, and that no attempt should be made to render him expert in the office sense in their application to all imaginable cases. If we attempt to teach theory by the medium of manifold examples, the average student proves unable to see the forest for the trees. This subject is best taught in an undergraduate course therefore, by courses of lectures, fully illustrated, and supplemented by sketching in the student's notebook of typical

examples. Building materials should be fully developed, so that the student may know the characteristics of each, its usual applications, and what may be expected of it in practice. The study of building construction should proceed from simple to the more complex assemblages in all materials, still with continuous sketching. Finally, there should be a course in theoretical and applied mechanics lasting a full year, with special stress laid on graphical statics. The only stated exercise in drawing recommended in connection with such a course (aside from the exercises in graphical statics) would be just sufficient practice in scale and full-size detail drawing as will enable the student to correctly grasp the principles of such work, and prepare him to take up with confidence that side of the office routine. No attempt should be made to make him familiar with all kinds of possible details, for it is futile to attempt to train the undergraduate, even if it were at all desirable to do so, to a point where he can produce working drawings and scale and full-size detail under office conditions with facility and precision.

Allowing twenty per cent. to the subject of building materials and construction, there yet remains ten per cent. of the undergraduate's time to be accounted for. This would be allotted for the most part to the history of architecture and the allied arts, reserving a small modicum of the time for a course of lectures dealing with professional ethics, office organisation, contracts, and kindred matters, and in a special course given by practising architects of the highest professional standing, who will present to the student's attention instances drawn from actual practice. It is of great benefit to the student to bring him in contact with such men.

A brief word may be said as to the amount of preparation which should be required of the student who presents himself to undertake such a course of study as I have here outlined. The requirements are few, but insistent. Sound training in English; a good reading knowledge of French; the fundamentals of general history, ancient, mediæval, and modern; mathematics up to and including trigonometry; the fundamental principles of chemistry and physics, and descriptive geometry, including shades, shadows, and perspective. No further instruction will be given, in any of these subjects, in the professional school, but the student will make use of his knowledge of them from the first.

The vast majority of practising architects in America to-day are men who have received no systematic course of training whatever, and who are consequently forced to rely more and more on the trained men from the schools for assistance. It is upon the skill of these assistants that they specially depend when the importance of the work in hand must meet the requirements of a rapidly-enlightening public opinion in matters of design. Such a state of affairs should make it quite clear that the immediate task of the architectural school is to fit men for such positions and not to repel students seeking a professional training by a prolonged and exacting

course of study containing much irrelevant matter, which, if appropriate at all to such a course, should be relegated to the post-graduate curriculum. Those who have proposed the inclusion of such academic and cultural studies in an undergraduate course of architectural studies are evidently unaware of the fact, well known to experienced teachers in that field, that of all the courses of study offered in our universities to-day there is none so well adapted to soften the asperities which may have been acquired by the student in previous unfavourable surroundings, and to develop in him a sympathetic appreciation of all that is best in the world of culture, as is some such course in architecture as that proposed. As between a course in arts, for example, and a well-balanced course in architecture, the latter will produce in the undergraduate student a much higher degree of fundamental culture than the former. The two courses in design and in the history of architecture and the subsidiary arts will have a marvellous effect in that direction. This has been noted by experienced observers in the Ecole des Beaux-Arts in Paris, and striking cases have repeatedly fallen under my own observation here in America. Moreover, to take the student at the age at which he usually enters our professional schools, and devote even two years to sociologic and cultural studies, is to lose two of the most vital years at his most impressionable age for artistic training. It is between the ages of fifteen and twenty-one that the student can be taught the fundamentals of design, and the earlier the better if he is ever to develop a first-rate capacity in that field. After that it is too late. And, again, men in the Freshmen and Sophomore years in college are not mature enough to derive much benefit from such "cultural" courses. If they are to be given at all it should be in a post-graduate year. It is one of the soundest of pedagogical principles that a student does his most effective work in any subject if it is taught to him only after his previous work has shown him his need of it.

No student should regard his professional training as having completed its first stage unless he has spent at least one year abroad, and has especially studied the architecture of Italy. Next in importance come France and England, but the student should take as wide a swoop at first as is possible, and include in his preliminary survey Constantinople, Greece, Egypt, and Spain. At some subsequent time he can look at Vienna and some of the German cities, in order that he may make up his mind as to the real value of the Art Nouveau movement; but modern architecture in German lands, outside of that influence, is a negligible quantity.

Taxation of Land Values.

The other side of the case.

We have received a communication from Mr. K. J. Beecham, a retired member, in which he deprecates the Society as a body opposing the Budget proposals. There is no reason, he thinks, why individual members should not support the present iniquitous land system and land monopoly if they can do so conscientiously any more than why others like himself (who have been land reformers from their youth upwards), should not do their utmost to uphold Mr. Lloyd George in his very moderate, just, and benevolent endeavours to modify existing inequalities, and to obtain a small modicum of justice to the nation at large, so that land monopolists with elastic consciences may have some check put upon their extortions from a helpless public.

At present, undeveloped land near towns is assessed for rating purposes at fewer shillings per acre than the monopolist will take in pounds if asked to sell—no wonder these gentlemen “kick” at having the generous opportunity given them of fixing a uniform value for both purposes—which common honesty demands.

He is confident that there are many members of the profession who are as earnest as he is in their desire to break down the present cruel and unjust land system, and he cannot understand how the proposed land taxes and land legislation of the present Government can be a detriment to the architectural profession.

The confusion arises in some cases, and he believes amongst architects, by confounding the Building Owner with the Land Owner.

Mr. Lloyd George's proposals affect the latter's exorbitant gains made whilst acting the part of the “sleeping beauty,” but they must benefit the former and therefore the architect.

Were it not for the unearned increments received by the ground landlords, and for the unjust covenants inserted in leases, the public would surely spend more in good building.

Even when the building owner is the freeholder, his payment to the State is scarcely likely to prevent him building, because in selling (say) 20 years hence, a small portion is claimed by the State on the land only.

He can understand people being deterred from building and acquiring leaseholds, because of the cruel covenants in some ground landlords' leases, and they would be deterred, only they cannot help themselves if they have worked up a business. These leaseholds seem to him to be fair ground for the Society to agitate for their abolition.

If there are a few instances in which the profession would be prejudicially affected by the “Unearned Increment Clause” (and all taxation must affect someone), surely the taxation of undeveloped land plots and the breaking down of this system of holding up land must be a source of the greatest gain to architects and surveyors.

It cannot be otherwise, Mr. Lloyd George is only following New Zealand in his land legislation where its benefits have been put to the proof, and then surely, land monopoly, by which, as we all know, a landlord frequently gets half a dozen times as much as he should, must prevent an architect's client or a public authority from spending so much upon the work as he or it would otherwise do. Hence badly constructed buildings and inefficient public works. Land monopoly is not beneficial to the architect in this respect.

When railways were first promoted upwards of 70 years ago, land of the most useless character worth £15 per acre at most was sold for £175 and so on, some landlords of course acted fairly, but it does not do to be at the mercy of these men, however philanthropic and well intentioned. Acts of Parliament were passed to enable Public Companies to make railways, and now land is purchased at something like reasonable prices.

The land legislation of the present Government tends to prevent the depopulation of the country side, and the congested areas springing up in North-East London and other places, and to promote housing schemes and reforms, garden cities, co-operative tenancy, and the power of Municipalities to purchase land at a fair price instead of at six or seven times its true value; small holdings and a contented peasantry and cultivators secure in their holdings, and therefore not afraid to make improvement in their buildings.

This legislation must be recognized as beneficial to the profession, viewed from the point of self-interest alone.

Then there is the valuation of land—the new *Domesday Book*—should not that find work for surveyors? Surely architects and surveyors have everything to gain by the Budget proposals.

The Design and Planning of Roller Skating Rinks.

Mr. E. C. Morgan Willmott, A.R.I.B.A., in an article in *The Builders' Journal*, states that the accommodation will depend upon the class of person who will use the rink; the small or select rink will be designed with greater regard to privacy and more in the nature of club premises.

For the large public rinks there will be the rink proper, entrance vestibules, skate rooms, offices, manager or secretary's room, cloakrooms for each sex, with lavatories adjoining, band stand, tea terraces or refreshment rooms, and perhaps also a gentlemen's smoke room and ladies' general or common room, pay office, instructor's room, kitchen, scullery, service room and larders. This would be approximately the full extent of the accommodation required, but there would also be certain rooms contingent to others already mentioned.

The Rink Proper.

It is in regard to the arrangement of the rink proper that the chief word must be written. It should be so arranged as to comprise proportionally two circles touching each other tangentially, this being, in the author's opinion, the ideal proportion. Such a rink provides a sufficiency of curve to allow of the maximum of pleasure to be obtained from speedy skating, without in any way so confining the curve as to produce giddiness; at the same time, the absence of any great length of straight discourages racing and recklessness. There will be an open barricade of a substantial character, and about 3 ft. 6 in. to 4 ft. high, and on the other side will be a walking space and place for skaters to take a chair and put on their skates. It is important that this walking space should be at least 10 ft. wide. Sometimes, besides this, small galleries are also provided. Other features include a ladies' common room and a gentlemen's smoke-room, also a spacious tea terrace, where spectators and skaters can obtain light refreshments. Kitchen, servery, cutting-up room, scullery, larders, etc., are conveniently provided for this purpose. Gentlemen's and ladies' rooms are also provided with lavatories lighted by suitably disposed areas. The best place for the band is contiguous to the common rooms, for if it is placed in any other position the noise created by the skating almost invariably drowns the music. In this case, however, it would at least be heard in the common rooms.

Construction of the Floor.

Varying authorities have considerably varying opinions as to the merits or demerits of different kinds of floors. Originally a fine Portland cement finish to a 6 in. concrete floor was considered to be excellent, but the danger occasioned by a heavy fall has mitigated against its successful adoption. Again, it is cold and comfortless, and does considerable damage to the skates. Cement or asphalte is never

perfectly level, and the latter works greasy, and is therefore slippery in damp weather. It is also heavy to skate upon during the warm weather, as it becomes less hard. Marble slabs properly laid and grouted in cement have been used with a great degree of success ; but as this material is expensive, it could only be used in private rinks of a small size. A rink with the floor prepared in this manner would have the same disadvantage as concrete for those skaters not sufficiently skilful to avoid falling.

The general concensus of expert opinion prefers a maple floor laid in narrow widths. Mr. T. Maxwell Witham gives an interesting description of the manner in which he thinks a floor of this kind should be laid with red pine strips 1 in. to 1½ in. wide. A log would be sawn into these strips, each strip to be cut so as to ensure that the edge of the grain shall be uppermost ; in other words, that no strip has the grain of the wood parallel or flat to the surface. The floor is made by being put together in sections, and each section consists of eight or ten strips, say, 10 ft. long, and at the back of each section battens are laid across diagonally, about 4 ins. apart, and these are screwed or nailed with round nails to the strips. The battens being laid diagonally across the strips, the sections will open and shut like a parallel ruler. The ends of the battens project so as to enable the sections to interlock, and the butt ends of each section, being properly squared, are grooved, and when one butt end is placed flush up against another an iron tongue is driven into the groove, and the butt ends are thus prevented from springing. The floor is laid on an ordinary floor, and the sections are laid down beginning from the outsides of the rink and meeting in the centre. These two middle sections are not interlocked, but a strip of pine wood is placed at the ends of the projecting battens and screwed down to the floor underneath, the screws in this batten being the only ones necessary in the whole floor. If in very hot weather the floor opens at all, a wedge driven in between the wall and the floor tightens it all up. The wear to be got out of a floor made and put down in this way is astonishing. The floor of the Crystal Palace skating rink was put down in this manner in 1876.

The more modern method of laying the floor is as follows. An ordinary floor is laid upon sleeper walls, the boards being placed diagonally, and the maple flooring laid on top of this. Rather wider floor boards are used than those previously mentioned, those now used being about 2½ to 3 in. wide by 1 in. thick. These boards are tongued, grooved, and rebated, and secret nailed. The boards are laid straight in the centre, and follow the curves of the rink in diagonally-laid sections. It is to be remarked that there seems no reason to dispute the undoubted superiority of wide boards over the narrower battened floors used. It will in that case be necessary to provide effectually against the likelihood upon the part of the wider boards to shrink or turn up.

Reverting to a consideration of the plan there should be two annexes provided

to the rink for the convenience of the beginner, one for ladies and one for gentlemen, with an instructor's or supervisor's room between them. It is a radical mistake to provide the learners' annexe in the general hall, for learners, and especially those of the fair sex, are not encouraged by having to execute their probationary antics in the public view.

The panic and other exits should be governed by the rules pertaining to theatres and public halls of a similar description.

Pay office, ladies' and gentlemen's cloakrooms, attendant's room, and skate store are all provided at each side of the turnstile entrances. It is of great importance to ensure for instructors and attendants adequate supervision, and, in a good permanent structure, provision should also be made for a resident caretaker.

The Best Form of Roof.

With regard to the best forms of roof and general construction. A curved lattice or bowstring roof is greatly used, but the author prefers an ordinary iron lattice girder roof. The bowstring roof would comprise three sets of timbers, these including the curved built up principal rafter, the tie-beam, and also the lattice struttings.

The principal would be double, and made up in short lengths of 4 in. by 1 in. scantlings cut to the curve. The lattice struts, 4 in. by 1 in. also would come in between the double principal, and also the double tie-beam, the latter, however, being out of 7 in. by 2 in. deal, properly broken and lapped at intervals.

The lattice struts will be about 1 ft. 6 in. to 2 ft. centres and the whole will be well spiked together. Trusses of this description would be placed about 10 ft. centres, with a herringbone strutting in between.

The camber for the roof proper would be 6 ft. for 50 ft., and other spans in proportion, while the camber for the tie-beams would be 4 in. for the same span. The roof could be curved corrugated iron sheets carried upon purlins in the usual manner, and it is easy to arrange for a ventilating ridge in the centre.

Lighting and Ventilation.

The rink should be clerestory lighted, except at the ends, where it may be considered desirable to arrange over the common rooms a spacious gallery for spectators. The side rooms can be roofed with a lean-to or flat roof.

The lighting is a point of vital and considerable importance. Most certainly it should not be by means of top lights proper, as the sun makes a building of this description too hot. Large semicircular clerestory windows, as shown, are much the best, and at the same time the most effective. Otherwise it may be as well to add to these clerestory lights some ranges of dormers in the main roof. The unsightliness of this main roof can be helped by arranging for a proper draw-curtain ceiling, fixed in a thoroughly adjustable manner between the principals.

The height of the section should be ample, and a definite scheme of ventilation should be adopted. All clerestory and dormer windows should be arranged to have a large portion to open by means of adjustable gearings. Artificial lighting will be electric arc lamps properly disposed, being suspended from the main roof principals.

A word about the (more or less) open-air rink. There is an exceptionally good one at the White City, Manchester, the huge rink being covered on top but left open at the sides. The plan shows roller shutters at the sides, so that in hot weather the whole of one or both sides can be advantageously opened up.

Sketching Party to Rochester, Saturday, September 11th.

The Sketching Party to be held on September 11th, will visit the ancient City of Rochester. It is proposed to make it an all-day trip. A special fare has been arranged with the Railway Company, 3s. 4d. return to Chatham. By going to Chatham advantage can be taken of the London and Chatham Express Service. Rochester is reached from Chatham by a short tramcar ride. The party will travel by the 9.50 a.m. express from Victoria (Holborn 9.45 a.m. and St. Paul's 9.47 a.m.), arriving at Chatham at 10.47 a.m.

Those who will be unable to travel until the afternoon will find the 2.5 p.m. from Victoria a very convenient train.

Among the interesting architectural features of Rochester are the Cathedral; the Castle; Eastgate House, now used as a museum (the Nun's House in *Edwin Drood*); the College Gate; the Guildhall; the Seven Poor Travellers, and many others.

Tickets may be had on application to Mr. H. Y. Margary, 67, Lewin Road, Streatham. Those who may not be able to catch either of the trains mentioned above will find that there is a good service throughout the day, and a list of trains will be forwarded on application for tickets.

Our President (Mr. Geo. E. Bond, J.P.) has kindly offered to make all arrangements for us, and to provide a tea.

Passing of the Transvaal Architects' Bill.

Discussion in Parliament.*

Sir W. Van Hulsteyn (Yeoville) in moving the second reading of the Architects' Bill, on June 30th, 1909, pointed out that it was introduced in order to prevent unqualified men practising as architects. In asking this, architects were only doing what other associations of professional men had done. They asked to be incorporated in order not only to protect themselves, but also to give protection to the public. He did not intend to go into details of the Bill, because it had been referred to a Select Committee under the able chairmanship of the hon. member for Turffontein. That Committee had gone through the provisions of the Bill most carefully, and he was perfectly satisfied with the amendments they proposed.

General J. H. De La Rey (Ventersdorp) objected to the Bill, because it protected some people, and harmed others. Everybody should protect his own profession without requiring a law to do it for him. The people of the country districts who could not afford an architect were satisfied with a suitable and cheap person.

Mr. J. Reid (Berea) supported the second reading of the Bill on principle. It was a trade union Bill, the body of architects practising in the country merely seeking a public recognition.

Mr. F. W. Beyers (Turffontein) could not understand the objections of the hon. member for Ventersdorp, there being no provision that anybody who wanted to build a house should employ an architect. A contractor could build any house, even if it cost, say, £20,000, as long as he did not call himself an architect or charged fees in that capacity. The Bill would protect the public against incapable persons. He had been a member of the Select Committee, and he could assure the hon. member for Ventersdorp that his fears were unfounded. Why make a distinction between architects and members of other professions? They also had to pass certain examinations. In most civilized countries such a law existed, and why should that Colony remain behind?

Mr. J. A. Naser (Klerksdorp) supported the Bill, and confirmed what had been said by the hon. member for Turffontein. He could assure the hon. member that the Bill would protect any gentleman who had practised as an architect in the Transvaal at any time; but all those who entered the country after the taking effect of the Act would have to pass an examination or produce their certificates, which was for the protection of the public. The Bill did not prevent anybody from employing a person to build a house, as long as he did not call himself an architect without possessing the necessary qualifications. It had been shown to the Select Committee

* (From a report in *The Transvaal Leader*, July 1st, 1909.)

that many unqualified persons had called themselves architects. In Johannesburg one of the churches had been built by such a party, and the result was a very sad one! Architects held important positions; they made the plans, superintended building operations, and any extras supplied by the contractor must be certified by the architect before they were paid for. He trusted the Bill would pass without opposition.

Mr. W. Hosken (Von Brandis) thought that the representatives of the profession of architects should have waited for an Act to cover the whole of South Africa. There was no immediate call in the public interest, because in all municipalities there were building regulations that afforded every possible protection to the public, and the only reason that the Government would have for going on with such a Bill would be to serve private interests. He saw no reason for bringing forward a special Bill, and doubted whether the Bill would help the profession.

General S. W. Burger (Lydenburg South) said he would vote against the Bill, as the public had not been consulted in the matter. He could not understand that a private member could introduce such an important Bill towards the end of the session. He thought it better to postpone it till next session, as he did not think that in the meantime many unsuitable buildings would be erected.

Mr. L. J. Jacobsz (Rustenburg North) said the Bill had been published in February, so that everybody should know the contents. It was a necessary Bill, as it would prevent unqualified persons from committing fraud. An architect had a good deal of power, and, even if he certified as to work that had not been done, the contractor would have to be paid for it; this happened in the case of the Dutch Church in Johannesburg. The party who was appointed to draw the plans called himself an architect, and he certified to extras to the amount of £2,000 which were not supplied. The case was brought into Court, and, though collusion was proved, the amount had to be paid, as the architect's certificate was conclusive. Under the Bill, a party could employ anybody to build a house for him, so long as that person did not call himself an architect. The principle of the Bill already applied to attorneys, surveyors, advocates, etc.; and this was for the protection of the public. As a member of the Select Committee, he could give the assurance that no one would suffer any harm. The Bill made provision that every qualified builder could register as an architect, but all those who came after the taking effect of the Act would have to produce proof of their ability. Nationality would not be considered, which proved that the profession of architects was more liberal than the other professions were.

Mr. W. K. Tucker (Roodepoort) supported the Bill, and expressed astonishment at the attitude taken up by the hon. member for Von Brandis. Conditions changed with the times, and organization was essential in every branch of professional and industrial activity. The day when every man could be his own architect had passed, and it was necessary in the interests of individuals and corporate employers of

architects that there should be some guarantee that the men they employed were qualified. It was no less desirable in the interests of art and decency that men in any particular walk of life should be subjected to some kind of control. Medical and legal practitioners had realized this, and architects now came forward because they recognized the necessity for control. It was difficult for the law to reach offence amongst professional men, and it was only when a corporate body of professional men could control its individual members that they could hope to deal with those trivial transgressions which were beyond the arm of the law.

Commandant H. C. Vermaas (Lichtenburg) objected to the Bill. As it was, very few public offices were built in the districts at present, and he did not know what the result would be if the Bill passed. The Government could build for £400 or £500 where contractors would tender for £1,000.

The Bill was read a second time, and the Committee stage set down for Thursday, when Mr. Greenlees said he desired in the first place, in view of misunderstandings which had occurred elsewhere, to emphasize one thing which the Bill did not do. It did not compel any man to employ an architect who preferred to build his house with his own hands or to give the charge of the work to a builder or any other person instead of an architect. What the Bill proposed to do was to constitute all qualified architects in the Transvaal into a Transvaal Architects' Society, to forbid anybody from styling himself an architect without proper qualifications and to provide a body to which clients who were dissatisfied with any architects they had engaged might send their complaints. The standing orders having been suspended for the purpose, the Bill was taken through Committee, without amendment, reported, read a third time, and passed.

Imperial International Exhibition, 1909.

Engineering Day, Saturday, September 4th.

The Building and General Construction Committee have decided to organize an Engineering Day at the White City, on September 4th, 1909, commencing with a Reception in Congress Hall, at 2.15 p.m.

Lectures on germane subjects will be given from 2.45 p.m. to 7.30 p.m.

Parties not interested in the Lectures will assemble at 4 o'clock on the Terrace of the Imperial Tower opposite the Congress Hall, and will divide into groups to be personally conducted by members of the Committees, who will explain the Engineering features of the Exhibition. The Committee comprises a number of architects, including Mr. Ellis Marsland, the Hon. Secretary of the S.A.

Registration in New South Wales.

Mr. Anderson, speaking at a meeting of the Institute of Architects of New South Wales, said there was another matter which affected each member of the profession, whether Government officers or otherwise, and that was the registration of architects. The Council of the Institute had drafted a Bill for presentation to Parliament, and had spent a considerable amount of time in its preparation. They wanted to feel that the whole of the architects of the State were at their back, and as members would see, there was now in evidence a petition addressed to the Council of the Institute asking for a Bill to be prepared and submitted to Parliament. The Council wanted each member to do his best to get these petitions signed by practising architects, whether members of the Institute or otherwise. There were, of course, many country architects, and the Council wanted them to know and feel that the Institute had the interests of the profession at heart, not only on behalf of its own members, but on behalf of architects in the State of New South Wales. The Bill would not be obtained without a fight, and the Institute wanted to rally forces, and it was in the interests of all architects to further the Council's efforts, and enable the Institute to approach the Legislature as a strong and united body.

The Transvaal Statutory Registration Bill.

On 8th inst., The Society of Architects in London received by telegram the important news that the Bill for the Statutory Registration of Architects in the Transvaal had that day finally passed both Houses of Parliament of the Transvaal State. The Bill referred to, says *The Irish Builder*, is that which was promoted by the Transvaal Institute of Architects and the local South African branch of The Society of Architects, and to the furtherance of which the Society gave financial support.

The importance to architects of this news is very considerable, and for many reasons the passing of the measure is interesting. It is the first accomplished legislation under British law for the professional protection of architects, and it is the first fruits of the long-sustained agitation carried on for so many years by architects throughout the English-speaking world.

The trend of the public mind in regard to the safeguarding of many callings and professions is shown by the sympathetic attitude towards the Nurses' Registration Bill, the fashion in which veterinary surgeons and dentists have been protected by legislation, and most recently by the extremely sympathetic way in which the House of Lords received the Bill for the Statutory Registration of Accountants the other day. Every one of the arguments applying in favour of registration in any of these callings applies equally to the architectural profession.

Registration of Architects in America.

The joint committee of the New York and Brooklyn Chapters of the American Institute of Architects has issued a circular in America to the effect that the New York Chapter on April 11th, 1906, passed a resolution to the effect that a proper Bill for the Regulation of the Practice of Architecture should become a Law. The other Chapters of New York State were invited to co-operate in forming a joint committee to obtain the consensus of opinion of the profession on the subject. A joint committee was formed by the New York and Brooklyn Chapters, which committee considered existing laws on registration of architects and particularly the revision of the Bill which had been introduced at Albany in 1906.

The Committee considered that before advocating the adoption of any Bill it should do two things—First : Learn the result of legislation in the three States which have tried registration or licensing of architects, and—Second : Obtain the sentiment of the profession in New York on the general subject of registration by Law.

With the first end in view, the Committee sent out a circular letter to five hundred architects in California, Illinois and New Jersey. There were received one hundred and forty-six replies which may be tabulated as follows :—

	Total.	Yes.	No.
California	38	34	4
Illinois	63	54	9
New Jersey	45	39	6
	146	127	19

The Committee is convinced that this tabulation is more interesting than important for the reason that many of the responses do not give any real reason for the sentiment of the writers, and in fact some of the answers indicate a regrettable lack of appreciation of professional etiquette and obligation.

Among those who replied some expressed unqualified opposition to such legislation in principle. Others who oppose legislation in principle do so believing it impracticable, unnecessary or ineffective. Some fear the influence of politics and others regard the Law a tax on the profession without adequate benefit to anybody except the secretaries of examining boards.

Many who favor legislation make criticisms on the existing Laws. One objection repeatedly made is against the annual fee. A single registration fee without an annual tax evidently would be more popular.

A few believe that present Laws are not enforced. The warning comes from several members of State Boards that it is of vital importance to make provision of funds to prosecute offenders.

One repeated criticism is that the requirement in the Illinois Law, whereby an architect must record his licence in every county in which he practices, is useless and annoying.

There is a suggestion from country architects that doubtless the Law is beneficial in the cities, but that the benefit to the public or profession in the small towns has not been perceptible. On the other hand some city architects have observed no good results, but doubt not that such laws are effective in the small towns.

Some extracts from letters received are as follows :—

Myron Hunt, Los Angeles (formerly of Chicago) : " The Law in Illinois and in California has seemed to me to benefit the public by partly curtailing the number of irresponsible architects. The inadequate method of enforcing the Law in each State has made this benefit only partial. It has benefited the profession by bringing architects together in closer relations. It has kept a number of bright young men from hanging out their shingle until they were fit. The better class of men in the better offices have come to see that it was worth while to get a State licence before doing work on their own account."

N. Clifford Ricker, for eight years a member and President of the Illinois Board of Examiners, sent us a long and valuable communication from which are given these extracts : " The public is benefited by the rising standard of professional training and technical knowledge required before the architect enters on the practice of his profession. Buildings are safer in construction and more economically built, the material being placed only where required. Greater care is taken in protection from fire, in warming and ventilation, and in the sanitation of buildings. In the hands of an ignorant architect, schools, churches, and assembly halls in the smaller cities and villages would be especially dangerous. I believe that the unregulated practice of all professions would be a calamity to the public, would soon produce unendurable conditions, and that the proper practice of the architectural profession is just as essential to the public welfare and safety as that of any other profession. The licence and renewal fees collected by the Board of Examiners are not paid into the State Treasury, but form a fund for the expenses of the Board and the enforcement of the Licence Law, which now amounts to about \$13,000,00 and is deposited in two Chicago banks, mostly at three per cent. interest, which is added to the principal semi-annually. It may therefore properly be considered a trust fund for the defence of the legal rights of licensed architects."

William K. Fellows, Chicago : " I was not in favor of it at first and could not see any benefit. I think, however, it is a move in the right direction and it has so worked in Illinois as to be an indirect benefit ; that is, it has made it difficult for certain of the smaller contractors to erect flat buildings and has resulted in the debarment of some of the most objectionable architects."

A. B. Frankel, Chicago : "It has benefited the public in that dishonest and incompetent architects have had their licence revoked and debarred practicing in this State ; also it makes the architect responsible for any act of incompetency."

James M. White, Dean of College of Engineering, University of Illinois : "I believe also that the Law has benefited the public because it has materially raised the qualifications of architects in the smaller cities of the State. Of course, it has not made any difference in the larger cities where the architects are usually well qualified for the practice of their profession ; but throughout the smaller cities there have been a great many builders and draughtsmen, who have been preparing plans for buildings, who, under this Law, are prohibited from doing so."

Hugh Roberts, Secretary New Jersey State Board of Architects : "The Law has benefited the public by excluding, from the ranks of practicing architects in this State, about four hundred persons who were not competent to practice and who are not now practicing. Many of these persons were carpenters and builders, while a great many of them were boys and young men who would have started to practice had our Law not been in operation. The Law has benefited the profession by excluding the above mentioned four hundred who were incompetent, and by admitting to practice only such as could show proper qualifications. In our State the title of architect now means more than it did five years ago, and from year to year as the ability of the average practitioner is raised owing to the operation of the Law, it necessarily means that the work done by architects will average up better and better as time advances."

Chas. P. Baldwin, President New Jersey State Board of Architects, gives valuable suggestions from experience with the New Jersey Law and says of that Law : "It has begun the exclusion of incompetents from the ranks of the profession. The benefit of such Laws becomes more apparent as time passes. At first conditions remain very much as they were, then the ranks of the practitioners being closed to all except those who demonstrated their worthiness by examinations or other evidence, the recruits of the profession are superior as a class to those who are at liberty to enter the ranks without any restraint."

The Joint Committee found that present registration or licence Laws are charged, justly or unjustly, with savoring too much of the principles of trade unionism. We believe that the profession should scrupulously avoid any attitude which might subject it to the suspicion of trying to get business by Law or of interfering with the rights of others who wish to design buildings.

It may be remarked incidentally that the profession can manifest its unselfish interest in the public good by exerting its influence in the enactment of better building Laws.

Our aim should be to win recognition for the profession in the eyes of the public in such manner that the people ultimately of their own free-will will choose, and not be forced, to give architects the charge of all buildings.

The American Institute of Architects has already won a high place in public estimation for architecture as a profession and it cannot afford to place itself in the attitude of trying to create its standing, or increase its importance, by Law. On the other hand, the Institute cannot place itself in opposition to legislation which may have as its object the regulation of the practice of architecture so far as it may conserve the safety of life and property. As an analogous case, we conceive that existing legislation controlling the practice of medicine is constitutional from a legal point of view on the theory that such laws are for the preservation of the public health.

Legitimate objects of legislation may well be in the first place to locate definite responsibility on everyone who shall undertake to design a building; and in the second place to prevent anyone from assuming the title of "architect" unworthily.

This Committee, after making some study of the registration Laws now in force in California, Illinois and New Jersey, and also the proposed enactments for New York, and after reviewing the sentiments of architects in the three States mentioned above, concludes that the profession should adopt a conservative attitude toward such proposed legislation. We believe that the profession would prefer to see recognition by Law deferred indefinitely rather than to accept faulty Laws which would be difficult to amend. We should not hesitate to oppose the passage of any Act which omits a single one of certain essentials of a wise Law. These essential provisions we would describe as follows:—

First—A proper definition of the term "Architect" which must express clearly the fact that the architect's function is a professional one in the interest of the client and in securing the best building for the price.

Second—That the assumption of the title "Architect" without proper authority of the law shall be a violation of said law and punishable as such.

Third—That working drawings of every building must be signed by the author, as "Architect" "Owner" or "Contractor" and that such signature shall carry with it the responsibility for the structural design of the building.

Fourth—That in the event a building is not supervised by the architect, the owner and the contractors concerned shall each file an affidavit with the Superintendent of Buildings (or other designated authority) certifying that the building has been erected in accordance with the drawings and specifications.

Fifth—That if the law provides a fee to carry the expenses of the Registration Board it shall be a gross sum and not a periodical tax, and that such fees shall be kept in a trust fund for the expenses of the Registration Board and not be paid into the public treasury.

The Modern Architect.

Practitioners must be Practical Men as well as Artists.

The antiquated, musty ideas of architectural practice, held by some of the more æsthetically inclined practitioners, are, says *Construction*, gradually but surely giving place to a saner, more practical, and more scientific conception of the true functions of architecture.

It is now being realized more and more that the architect of to-day must be a thoroughly trained man, not only in the distinctive branches of architecture, but he must be practical. He must be a trained business man, with ability to use sane business judgment.

This is purely a commercial age, and, while it is true that there are many structures in which the utilitarian must be made subservient to the æsthetic, it is, nevertheless, a fact that even a monument must be erected under modern conditions, and in accordance with modern methods of construction.

The architect of to-day must be more than a designer. He must have knowledge of the scientific branch of building construction, as well as the artistic side of the profession. The more quickly this fact is realized, and architects cease to attempt to transplant the antiquated work of a thousand years ago, from European countries, to the New World, and the sooner they realize that even the profession of architecture must be influenced by modern requirements and local conditions, and the sooner they get down to terra firma, and apply themselves in studying modern requirements, economy in construction, utility of plan, adaptability of materials the sooner shall we have an architecture fitted to our commercial and social life, an architecture distinctive of our own age, and our own country, and an architecture which employs materials we, as a nation, have at hand.

The other day a New York architect, Mr. J. Stewart Barney, made a notable speech before the Architectural League, in New York. He spoke as a free thinker in the craft and frightened the prebendaries, deans, and curates of the old architectural regime. Mr. Barney expressed the idea that American architectural styles ought not to be imported, like millinery, from Paris; that they ought to grow up, indigenous, from the soil, and to suit the climatic conditions and general uses of American life.

This proposition strikes a great many of the architects of the Old School, as conceited and absurd. Mr. Whitney Warren and Mr. Francis H. Kimball, in particular, both prominent United States architects, have come forward to say that a New World style of architecture may perhaps put in an appearance in an æon or two, but meanwhile it will be necessary to shin along as best we can, with the imported models.

Messrs. Warren and Kimball's talk about the long, slow evolution of architectural styles, is, to speak testily, the patter of pedants. It did not take long to evolve a log cabin out of the necessities of our woodsman, or a sod house out of the cattle country, an abode out of the arid plains, or an entirely characteristic American mansion house, so says a United States writer, out of the prosperity of Salem shipmen.

In commenting on this proposition of Mr. Barney's, the same writer points out that the architecture of the southern plantations or of New England villages, a century ago, was as well fitted and proper for the time and country, as the acropolis to the periclean Athens, but in the 19th century, he continues, this country (the United States) went through a painful period of mental and moral confusion not unrelated to its parlous political state, and its sense and taste in buildings suffered contortions.

That was the age of the village magnates, big Frenchroof houses, with a cupola, and with iron dogs on the lawn. It passed, but has long left its mark upon the minds of some metropolitan architects, who go on thinking about iron dogs and cupolas, Corinthian porticos and Roman colonnades, without regard to any earthly use.

This writer believes that the distinctive American idea is that art should keep closer to science, than ever it has been before. The beauty of buildings should grow upon their utility. If men in America find dignity in their work, houses should do the same.

These comments upon the revolutionary statements of so prominent a free thinker in the profession, as Mr. Barney, by a writer who speaks as a layman, have some interesting kernels of thought, that architects will do well to take note of.

WABINGDON.....
St. HELENY CHURCH...
from the RIVER...



SKETCHED BY HARRY W. SMITH (*Student*).



SKETCHED BY HARRY W. SMITH (Student).

Architecture as a Profession.

Mr. John B. Macdonald, in an article in the *Journal of the Institute of Architects, New South Wales*, expresses the opinion that those who have chosen a trade or profession, for which they are totally unfitted, are so plentiful as not to need enumeration. Yet, while realizing the consequences of striving to practise a profession, for which Nature never intended one, we are at a loss sometimes to devise any satisfactory remedy.

Even more noticeable than the tradesman who has missed his vocation, is the professional man ; and this is especially noticeable in the architectural profession. The present overcrowdedness of other professions is influencing many parents to give their sons a training in draughtsmanship and architecture. Very often in choosing architecture as the means by which they are to gain a livelihood and success, the necessary qualifications requisite to make a successful architect are seldom taken into consideration ; an architect being, in the opinion of many, merely a man who draws plans.

If a lad shows ability in drawing, he is not necessarily a born architect ; drawing being merely the means employed by the architect of placing his ideas on paper.

Therefore, an essential qualification is that of having ideas. Unless a person be possessed of some originality and constructive ability, he will be totally unsuitable as a designer. He must also be gifted with an imagination. An imagination that runs riot is useless. The designer should possess an imagination that can vividly conceive his building standing on the required site, and be able to judge the effect of his design before it has left the drawing board. Some may attain success by imitation, by following stereotype or other conventional designs, but it is an ill-earned success invariably, gained through good luck rather than brilliant management.

A student must be possessed of natural ability for designing, planning, and inventing. He must have a fertile and suggestive mind, these are necessary qualifications that cannot be acquired. No system of training or continuous study will ever make an uninventive mind evolve anything original.

The profession of architecture presents a rare opportunity for the man gifted with perceptive and inventive faculties.

There is always room for innovations in all branches of architecture, and although a design be not absolutely new, yet the embellishing of old ideas, or the intelligent grouping of ancient architectural features, produces an entirely modern effect.

If a student is naturally gifted in these directions it will be safe to assert that after four or five years pupillage he will be honestly entitled to write " Architect " after his name. But the success of a student commencing the practice of architecture from a financial standpoint depends more upon the number of his " friends " at court than his own qualifications.

Examinations for Membership.

Date and Centres.

An Examination in the following subjects will be held by The Society of Architects, in London, Manchester, Cardiff, Oxford and other centres, on October 5th, 6th, and 7th, 1909. An Examination will also be held in Johannesburg and other South African Centres, under the auspices of the South African Branch of the Society, during December, on dates to be arranged. Application should be made in the latter case to the local Hon. Secretary, Mr. Edward H. Waugh, P.O. Box 1049, Johannesburg.

Section I. ARCHITECTURE.	Planning, design, architectural history.
„ II. BUILDING.	Construction and materials.
„ III. PRACTICE.	Contracts, specifications, quantities.
„ IV. SANITATION.	Ventilation, drainage, water supply, etc.

The latest date of entering for the Home Examination is September 20th, 1909.

Age Limit, Qualification, and Fees.

Candidates for the examination must be 21 years of age or over, and have served at least three years' pupilage to an architect, or the same term in a recognized school of Architecture. Examination papers will only be issued to candidates whose fees* (£2 2s. 0d.) are paid in advance (see entry form).

N.B.—A candidate failing to qualify in any of the subjects may be admitted to a subsequent examination in such subject within twelve months without fee.

Successful candidates will be awarded a certificate qualifying them to make an application for membership in conformity with the regulations. Such applicants will be nominated for membership by the Council, but election to membership is by ballot of the members.

*The fees for the South African centres are £4 4s. for the first sitting, and £2 2s. for each subsequent one.

The following regulations apply only to Students of the Society.

Students of the Society may take the examination by sections at a fee of 15s. for each section, or in the case of students who are 21 years of age or over, the whole examination at one sitting for a fee of one-guinea-and-a-half; in each case under the above conditions as to procedure if relegated or successful.

Certificates of proficiency will be awarded in those sections in which a Student candidate qualifies, or a full certificate as the case may be, and if relegated such candidate may sit again at a subsequent examination within twelve months without fee.

A holder of the four sectional certificates of proficiency issued by the Society, or their equivalent in certificates of exemption, who has attained the age of 21 years, may apply for the full certificate entitling the holder to make an application for membership.

The Society of Architects.

Examination, April, 1909.

Section IV.—SANITATION.

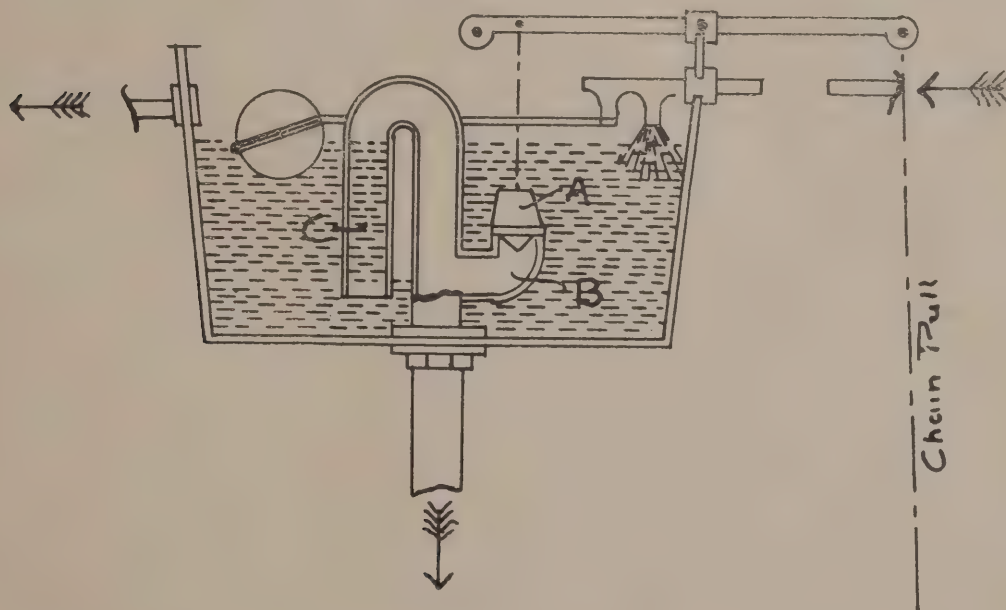
WORKED ANSWERS by CHAS. H. MEAD, M.R.San.Inst., Examiner.

Question 1.—*On the accompanying plan show the lines of drainage. All soil drains to be carried in the direction indicated to septic tank. All rain water to be carried in the direction indicated to rain water tank.*

Answer 1.—See plan.

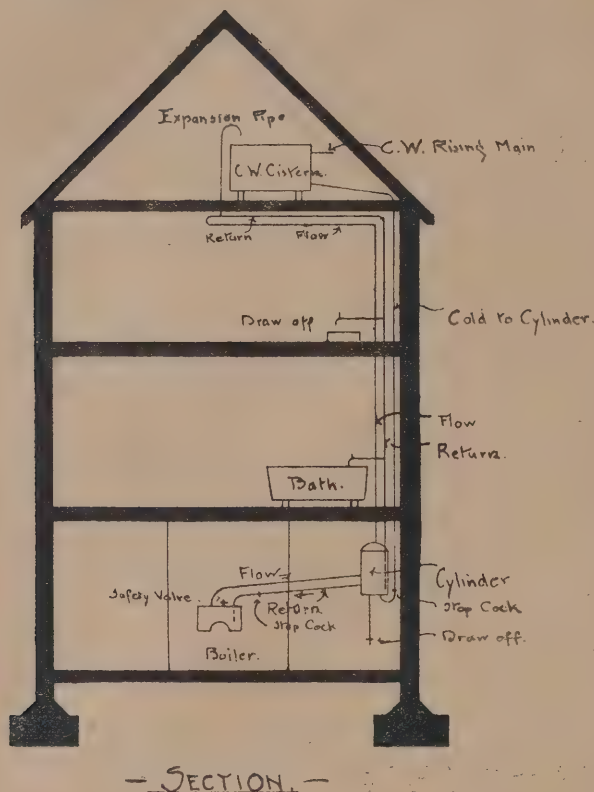
Question 2.—*Give a sketch section through a water waste preventing cistern, and describe its action.*

Answer 2.—The action of the cistern may be described as follows :—Immediately the valve A is opened the water flows through connection B into discharge pipe, causing a partial vacuum, the water rushing to fill up the vacuum starts the syphon C. When once the syphon is set in action it will continue running until the whole contents of the cistern have been discharged.



— Water Waste Preventing Cistern —

Question 3.—Describe the construction of a hot water low pressure service for a private house. Describe how the circulation is obtained, and show by sketch plan and section the position of boiler, cylinder or tank, cold water cistern, bath and other usual fittings.



Answer 3.—The section should explain sufficiently almost all that is required, but the circulation is briefly obtained in the following manner. From the cold water cistern in roof, which is supplied in the usual way by the general cold water rising main, tap, cistern and connect with usual union and washer, and carry down 1 in. galvanized-iron supply pipe and fix as shown on section to underside of cylinder; the cold water will then pass by lower return pipe of cylinder to boiler in direction of arrow. The range being fired the water in boiler rises through the flow-pipe back to cylinder, and then again passes out of flow-pipe at top of cylinder to highest point which has an expansion pipe fixed in case of over-pressure, and returns down return pipe; from this pipe the draw-offs as

shown are taken off, and water returns back to cylinder again to be reheated. Stop-cocks are fixed in case of repairs, and safety valve as shown is used to avoid explosion.

Question 4.—Discuss the question of gas versus electric light as illuminants and for heating and cooking purposes.

Answer 4.

The question of gas versus electric light as illuminants and for heating and cooking purposes has been a matter of considerable controversy for some years now. At one time electric light seemed to look like taking the place of gas as an illuminant altogether, but the introduction of gas mantles, and other improvements such as in lamps, etc., has made the matter once again a matter of choice.

With regard to cost gas is to-day generally cheaper except under exceptional

conditions, as in some places where much electricity is used for power in factories and such like.

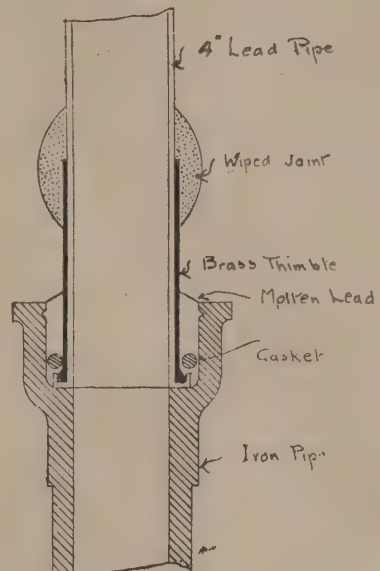
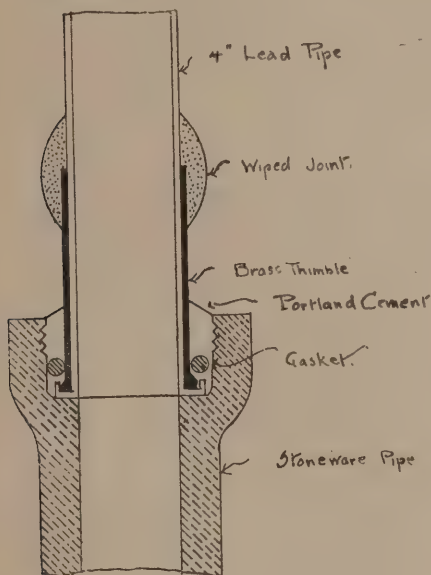
In the matter of heating and cooking, especially as to the latter, gas is cheaper, and at present more satisfactory, and is to-day in houses and flats becoming the most usual form for cooking.

There are however many good forms of electric stoves on the market, but their cost in consumption of electric energy is very considerable, except under exceptional circumstances.

What the future will bring it is at present hard to definitely say, the tendency however points to electric light predominating, but the fact that under the Livesay Memorial research work will be carried out in gas makes one feel that the old tussle may yet continue for many years.

Question 5.—*Sketch quarter full-size the connection between a 4 in. lead soil pipe and a stoneware and iron drain pipes respectively.*

Answer 5.



Mainly about Members.

MR. W. SCOTT, A.R.I.B.A., of Mountjoy Square, Dublin, is the architect for additions to the Convent of the Poor Clares at Cavan.

New Secondary Schools are being erected at Bromley, Kent, for the Kent Education Committee, under the supervision of their architect, MR. W. H. ROBINSON. The walls are of brick, with Doulling stone dressings from the Chelynch Beds, supplied by the Ham Hill and Doulling Stone Company, Ltd.

A School-Church is in course of erection in Smithfield Road, Wrexham. The building will cost £3,000, and the architects are Messrs. Prothero, PHILLOTT & Barnard, of Cheltenham. The complete extension scheme, of which the present building forms only a part, provides for the expenditure of about £13,000.

The architects for the Bath Pageant were HERBERT W. MATTHEWS and ALFRED J. TAYLOR, of Bath. The Pageant proved a very great success and the grand stand, designed and built under the architects' supervision, was regarded by all as being a very satisfactory and fine structure, holding some 4,000 people.

The London County Council have approved of the plans of a new concert hall which is to be erected in John Street and Durham Street, Adelphi. The building, which has been designed by Messrs. HAYWARD & Maynard, architects, of John Street, is to be adapted from a portion of the old Coutt's Bank, and will accommodate about 400 people.

The Cumberland County Council have opened a new School at Warwick Bridge. The new School and the adjoining Schoolmaster's House have been built of red stone from the Cumwhinton Quarries, and has accommodation for 138 children. The total cost of the School has been £2,000, and of the House £680. MR. J. FORSTER, Clerk of Works to the County Education Committee was the architect.

Building operations upon the new Parish Church at Melrose which has been designed by MR. J. M. DICK-PEDDIE, of Edinburgh, are now proceeding. The Church, which, with hall and offices, is estimated to cost £9,000, is to replace the one destroyed by fire in June, 1908. The spire, originally built in 1810, is being utilised in the new design.

Messrs. Williams Deacon's new Bank, at the corner of Stephenson Place, Chesterfield, has been opened. The architect was MR. W. CECIL JACKSON, M.S.A., of Chesterfield. The whole of the exterior of the building is faced with Stancliffe stone, the interior walls are lined with faience, the floors are of marble and oak blocks, and the whole of the internal fittings are of mahogany.

A new higher elementary school is to be erected at Caerphilly by the Glamorgan Education Committee. In addition to the ordinary laboratories, lecture, cookery, manual instruction, and art rooms, dining-rooms and spray baths are to be provided,

for which plans have already been approved. This will be the largest out of about eight higher elementary schools. Plans for similar schools have been approved for Bargoed and Routlottyn, the drawings having in both cases been prepared by the County Architect, MR. D. PUGH-JONES, Cardiff.

Re-opening services after restoration have just been held at All Saints', Burnham, Sutton-cum-Ulph, one of the few ancient Norfolk churches that has never had a tower, a bell-turret being placed on the apex of the western gable of nave. The low-pitched plaster roof of the nave has been replaced by a new one of open timbers covered with tiles, and of the original pitch; the bell-turret was rebuilt, the porch reconstructed, a vestry has been added at the north-west angle of nave, and the chancel roof has been retiled. Messrs. LACEY and Upcher, of Norwich, are the architects.

A Baptist church is being built on a site in Stoke Road, Gosport. The church provides 495 sittings, and on special occasions 620 people can be accommodated. The walls are faced in best red bricks and relieved with dressings of Bath stone. The roof is covered with Welsh slates. The glazing of the windows is in cathedral tinted glass, with leadwork. The seating and the rostrum and the gallery front are in pitch-pine. Provision is made for lighting with electricity and heating with hot water on the low-pressure system. The architects are Messrs. JOHN WILLS & SONS, of Derby and London, the contract being in the sum of £2,215 10s.

The committee of the East Cornwall Hospital, Bodmin, recently received thirty-six sets of competitive plans for the erection of a proposed new hospital in Rhind Street, Bodmin, the first premium being awarded to MORLEY B. COLLINS, Redruth, and the second to F. A. WIBLIN, Plymouth. Mr. M. B. Collins having received the first award the building will be carried out in accordance with his designs, and will contain male and female wards accommodating six beds each, two private wards, operating theatre, matron and nurses' sitting rooms and bedrooms, also an out-patients' department consisting of dispensary, consulting room, waiting hall, etc.

New chemical and physical laboratories are being erected to Penarth County Schools at a cost of £4,169. A new higher elementary school is in course of erection at Bargoed, at a cost of £7,819, in addition to the ordinary classrooms, chemical laboratory, art room, manual instruction room, combined cookery and home-making room, lecture room, etc., are provided. A similar school is being provided at Ogmere Vale, at a cost of £8,274, but with the addition of spray baths. Plans have also been approved for a similar but larger school to cost about £9,000, at Caerphilly, and tenders just accepted for an elementary school to accommodate 416, at a cost of £6,949, at Tonyrefail, all for the Glamorgan Education Committee. MR. D. PUGH-JONES County Architect, Cardiff, being responsible for the plans and supervision of all the buildings.

The Hunslet Moor Council School has been erected consequent upon the condemnation of the Hunslet St. Peter's Council schools by the Board of Education. The school consists of two blocks, one of which provides accommodation for 360 girls on the ground floor, 360 boys on the upper floor, the other providing for 388 infants on the ground floor and containing handicraft, cookery, laundry, and housewifery centres on the upper floor. A central hall has been provided for each department, and the classrooms are mostly arranged to accommodate sixty children. The buildings are lighted throughout by electricity, and the drainage and sanitary appliances are of the most modern type. The school has been built with local bricks and stone, under the supervision of the committee's architect, MR. FRED. BROADBENT. The total cost of the site, buildings, and fittings will be about £20,000.

The Central Library, Walthamstow, opened recently, is erected on land adjoining the Public Baths in High Street. It has a frontage of 64 ft., a depth of 138 ft., and rises to a height of 71 ft. above the pavement level. The style is Georgian. The main façades to the first floor are fronted with rusticated ashlar, and above with red bricks and stone dressings. Four Ionic columns advance from the walling, and are surmounted with two curved pediments over two circular-headed windows. A niche in the centre contains the bust of the donor of the building. The roofing is of the pavilion type, formed with steel principals, covered with Broseley tiles, and surmounted by an octagonal flèche, constructed with teak columns, and covered with copper. The main doors are of oak, with a moulded hood, on brackets. The lending libraries are self-contained. The adult library is 41 ft. square, and the juvenile library is 41 ft. by 16 ft. Both rooms are 14 ft. high. The adult library has a working capacity for 16,000 volumes, and the juvenile section for 8,000 volumes. The reading room, which was erected fourteen years ago, from a design by the present architect, has been thoroughly renovated and redecorated. The reference library is 36 ft. by 24 ft., the ceiling being 18 ft. high. Divided from this department by a screen and counter is an annexe for the staff, and over this is a large storeroom for expansion of the reference stock. This room can be approached from the reading room as well as from the corridor. The principal staircase is of Volkynian oak. An arcade corridor of oak has been formed on the first floor landing. The dado is of Roman marble, with a dove marble finishing rail. Light is obtained from three windows facing the central flight, filled with leaded and stained glass, with laureated borders, containing names of representative masters of English literature. The lecture hall measures 60 ft. by 41 ft., and is 26 ft. high. Accommodation has been provided for 400 people. The walls are panelled with Oregon pine, divided by pilasters and Ionic capitals. A fire-resisting exit staircase has been provided, leading directly to the street. In the basement is provided a heating chamber, electric chamber, and coal cellar. On the ground floor there is a staff room, leading off the main corridor. The first floor contains the storeroom

previously referred to, and the office of the librarian. The second floor consists of a flat for caretaker's residence, separately approached. A low-pressure hot-water system of heating, with ventilating and other radiators, has been installed throughout the buildings. The premises are lighted by electricity. The cost of the building is nearly £10,000. The architect is MR. J. WILLIAMS DUNFORD, of Walthamstow, and Queen Victoria Street, E.C.

Students' Correspondence Classes.

Commencement of Third Year's Course.

Syllabus for 1909-10.

The session is from September to June inclusive, with one month's vacation at Christmas, and the course extends through three years, the fee for each year being £2 2s. 0d. to be paid in advance.

It is advisable that Students should take the three years' course, but, if desired, the course may be taken from year to year.

Papers are sent out by the examiners once a fortnight for return by the Students in 10 days. These are examined, annotated and corrected by the examiners and returned for completion with the next question. Where it is necessary, the examiners give personal interviews to Students.

All papers set are to be returned and to be the sole property of the Society, nor is any use to be made of them by Students or others for teaching or illustrations. The Society reserves the right of exhibiting or illustrating the drawings.

The questions are graded and consist of structural questions dealing with portions of a building covering all trades, with a view of teaching the proper preparation of reliable working and contract drawings and elementary design.

In the second and third years the work will include the preparation of small designs, details, and specification for same.

The examiners inform each Student of his position in order of merit for improvement and also of his position in the whole class, for which purpose the various completed worked answers must be returned at the end of each year.

A model question may be obtained of the Secretary, price sixpence, and specimens of the Students' work, showing the value of the course, may be seen at the Society's Offices.

Prizes of the value of One, Two and Three Guineas respectively, will be awarded to the Students heading the lists in the first, second and third year's course.

Papers for Session 1909-10.

The Secretary will be glad to receive offers of Papers from Members and others for next Session, for the consideration of the Council.

Meetings and other Fixtures of the Society.

Subject to such alterations and additions as may be announced from time to time in the "Journal" or by circular.

- Sept. 2nd. Council Meeting. House List, 1909-10, etc.
„ 11th. Students' Sketching Party to Rochester.
„ 21st. Entries for Home Examination close.
Oct. 1st. Last day for submitting result of Travelling Studentship Tour.
„ „ Last day for receiving nominations for Council.
„ 5th, 6th and 7th. Examinations for Membership.
„ 14th. Twenty-fifth Annual General Meeting.
-

Annual General Meeting.

The Twenty-fifth Annual General Meeting of The Society of Architects will be held at Staple Inn Buildings (South), Holborn, W.C., on Thursday, October 14th, 1909, at 8 p.m.

Agenda :—

1. The President to take the chair.
2. Minutes of the last Annual General Meeting.
3. Nominations for Membership.
4. Announcements.
5. Ballot for candidates for Membership.
6. Council's Annual Report.
7. Election of Officers and Council, 1909-10.
8. Votes of thanks.

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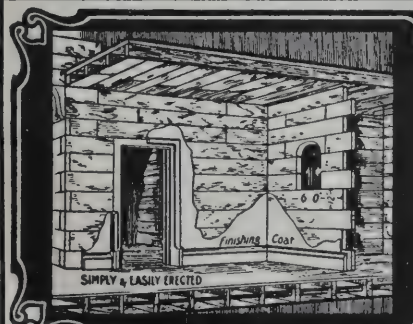


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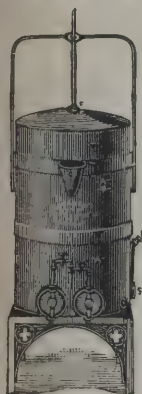
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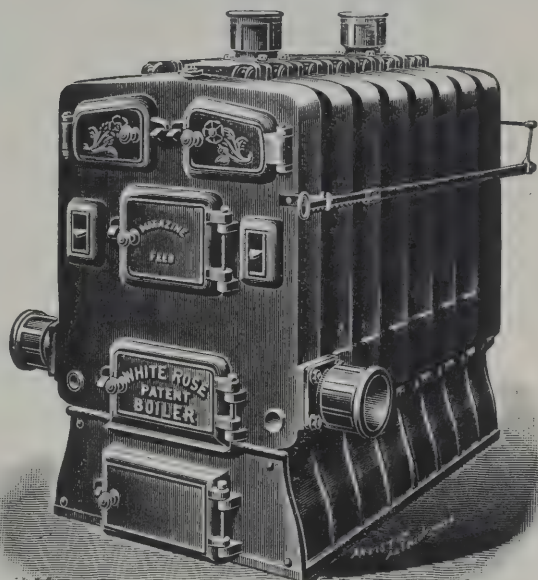
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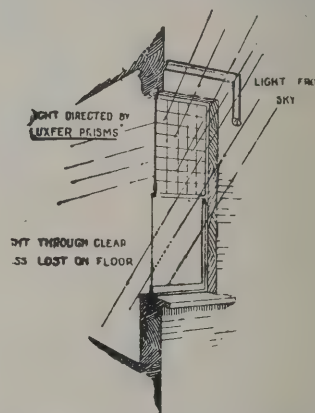
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The Society is not, as a body, responsible for the opinions expressed by individual authors and speakers.

Architects' Private Bill, 1909.

**A Private Act to Provide for the Registration of Architects in
The Transvaal. Assented to July 7th, 1909.**

WHEREAS it is expedient to provide for the registration of persons publicly practising, or entitled to practise publicly, as architects in The Transvaal, so as to distinguish qualified from unqualified persons ;

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2. Any person contravening any of the provisions of section one hereof shall be liable to a fine not exceeding one hundred pounds for each offence and in default of payment to imprisonment for a period not exceeding six months.

ASSOCIATION OF TRANSVAAL ARCHITECTS.

3. Upon the coming into operation of this Act there shall come into existence a body corporate by the name of "The Association of Transvaal Architects" with perpetual succession and the right to use a common seal and to sue and be sued in its corporate capacity, and the said body corporate shall be capable in law of taking and holding any movable or immovable property for the benefit and purposes of the association with power to dispose thereof, but so that the association shall apply its funds and assets in promoting the objects of the association and shall not at any time pay any dividend to its members. Every person registered as an architect as hereinafter provided shall upon such registration ipso facto become a member of the said association.

APPOINTMENT OF THE PROVISIONAL COUNCIL.

4. Upon the coming into operation of this Act there shall come into existence a provisional council consisting of the following persons, namely:—

WALTER REID, F.R.I.B.A.

HERBERT BAKER, F.R.I.B.A.

G. A. H. DICKSON, F.R.I.B.A.

FRANK EMLEY, F.R.I.B.A.

ARCHER HOSKING, A.R.I.B.A.

W. H. STUCKE, A.R.I.B.A.

HARRY CLAYTON, M.S.A.

J. F. BEARDWOOD, M.S.A.

R. HOWDEN, A.R.V.I.A., M.S.A.

G. H. VEALE.

F. G. MCINTOSH.

W. J. D. ZWAAN.

G. ST. J. COTTRILL.

who shall be the first members of the Association of Transvaal Architects and shall forthwith cause their names to be entered upon the register thereof. The provisional council shall, subject to the provisions of this Act, exercise all the powers of the association until the council hereinafter mentioned shall come into office.

Should any of the said persons die or become incapacitated, or refuse to become or remain members of the said provisional council, the Governor-in-Council may appoint other qualified persons in their place.

PROCEEDINGS OF THE PROVISIONAL COUNCIL.

5. Upon a day to be fixed by the President of the Transvaal Institute of Architects, but not later than one month from the coming into operation of this Act, the provisional council shall meet at Johannesburg and shall at such meeting elect a president. In the absence of the president at any meeting the members of the provisional council present shall elect one of their number to preside.

At any meeting of the provisional council five members personally present shall constitute a quorum, and a majority of the members present shall decide every question to be decided by such meeting, except admission to the register, on which a majority of the whole council shall vote, and fourteen days' notice shall be given of all meetings at which the admission of members is to be dealt with.

Subject to the provisions of this Act the provisional council are hereby empowered to regulate their meetings and the proceedings thereat and the mode of carrying on the business of the association and shall remain in office until six months after the date of the coming into operation of this Act.

The provisional council shall have power to appoint a clerk or registrar and such other officers as they may deem necessary for the purpose of the association.

PERSONS ENTITLED TO BE REGISTERED BY THE PROVISIONAL COUNCIL.

6. The provisional council shall forthwith open a register in which any person shall be entitled to be registered as an architect in pursuance of this Act who proves to the satisfaction of the provisional council within six months next after the coming into operation of this Act that at the date of the coming into operation of this Act he was resident in British South Africa, and

- (a) was a member of the Transvaal Institute of Architects or of any other institute or society of architects of equal standing ; or
- (b) was publicly and bona fide practising as an architect in The Transvaal ; or
- (c) was at such aforesaid time, or prior to the coming into operation of this Act, engaged as an assistant to an architect in The Transvaal and has had at least seven years' professional experience ; or
- (d) that he is possessed of qualifications and experience which may be declared by the Governor-in-Council by proclamation to be equal to those in one or other of the foregoing instances.

PERSONS ENTITLED TO BE REGISTERED BY THE COUNCIL.

7. Upon the expiration of six months from the date of the coming into operation of this Act no person shall be entitled to be registered in the said register as an architect unless he shall prove to the satisfaction of the majority of the whole council hereinafter mentioned that at the date of his application for registration he is resident in British South Africa and has attained the age of twenty-one years ; and

- (a) has passed the examination for associateship of the Royal Institute of British Architects or the examination for membership of the Society of Architects of London or the examination or examinations conducted by the council and prescribed by the bye-laws of the association or some other examination which may be declared by the Governor-in-Council by proclamation to be equivalent to one or any of these examinations, and has in addition had at least four years' professional and practical experience as an assistant to an architect ; or
- (b) that prior to, or at any time of, the coming into operation of this Act he was registered as an associate or fellow of the Royal Institute of British Architects or as a member of the Society of Architects of London or the Transvaal Institute of Architects or of some other society or institute of architects which the Governor-in-Council may by proclamation declare to be of a standing equal to that of one of the said institutions.

APPLICANT REFUSED BY COUNCIL MAY APPLY TO SUPREME COURT.

8. Where the council has refused to register the name of a person applying to be registered under sections six and seven, such person may apply on notice of motion to the Supreme Court for a review of the decision of the council, and the said Court may thereupon make such order as it may deem fit.

REGISTER.

9. The provisional council or the council, as the case may be, shall, within a week after the registration of any person under this Act, transmit to the Colonial Secretary a duplicate of the said entry and the Colonial Secretary shall cause a duplicate of the aforesaid register to be kept in his office. Every change affecting the Register shall be noted therein and notified to the Colonial Secretary.

REGISTRATION FEES.

10. No person shall be placed upon the register until he has paid such registration fee, not exceeding five guineas, as shall be fixed by the provisional council or the council, as the case may be.

RESIGNATION BY MEMBERS.

11. It shall be lawful for any person whose name has been placed on the said register and whose professional conduct is not then the subject of investigation at any time to resign by writing under his hand addressed and delivered to the council and thereupon his name shall be removed from the said register and he shall cease to be registered as an architect and to be a member of the association.

ANNUAL SUBSCRIPTION.

12. Every member of the association shall pay an annual subscription at such time and of such amount as shall be fixed by the by-laws framed as hereinafter provided: provided however that members who have ceased to practise shall be entitled to remain on the register without being liable to pay such subscription but shall not be entitled to be officers of the association or to be present or vote at any of the proceedings of the association or to be reckoned in any quorum unless they shall have paid such subscription.

RECOVERY OF SUBSCRIPTION.

13. All sums of money due by members to the association for registration fees or subscriptions may be recovered in the court of any resident magistrate within whose jurisdiction the debtor may reside. An affidavit by the secretary setting forth the necessary facts shall, in cases by default, be prima facie evidence upon which the court may grant an order or pronounce judgment by default in such suit and such judgment shall be enforceable in ordinary course of law.

ELECTION OF THE COUNCIL.

14. On such day during the currency of the sixth month next after the date of the coming into operation of this Act as the provisional council shall appoint they shall convene a meeting in Johannesburg of all persons whose names appear upon the register at the date on which the notices convening such meeting are issued, such notices to be posted to the registered address of such persons at least fourteen days before the date fixed for the said meeting, and at such meeting the persons present or represented by proxy in writing shall proceed to elect in manner to be provided by the provisional council a council of twelve members who shall come into office upon the expiration of six months from the date of the coming into operation of this Act and thereupon the provisional council shall cease to exist. The council shall hold office until the date of the first or next annual general meeting as the case may be when they shall retire from office.

OFFENCES.

15. The following acts and practices, whether of commission or omission, upon the part of any architect shall be offences under the provisions of this Act and if found guilty by the Supreme Court of having committed or engaged in any one or more of such acts or practices such architect shall be liable to be suspended from practice for any period that may be decided on by the said court, or to have his name removed from the register as hereinafter provided; that is to say—

- (a) allowing any person except a registered architect in partnership with himself to practise in his name as an architect;
- (b) directly or indirectly sharing his professional remuneration with any person, not being a registered architect in partnership with him, or directly or indirectly accepting any share of the professional remuneration of such person or any commission or bonus thereon;
- (c) signing accounts, statements, reports, specifications, plans, or other documents purporting to represent any architectural work performed by himself which work shall not have been performed under his personal supervision or direction;
- (d) directly or indirectly paying a person a commission for bringing him work, giving any person monetary or other consideration as a remuneration for bringing him work, or for inducing other persons to give him work;
- (e) touting or otherwise improperly obtaining or attempting to obtain work;
- (f) performing any architectural work in connection with any matter which is the subject of dispute or litigation upon condition that only in the event of the said dispute or litigation ending favourably for the party for whom the work is performed shall payment be made for such work;
- (g) conducting himself unprofessionally or dishonourably in connection with any work performed by him as an architect;
- (h) wilfully disobeying, refusing, or neglecting to carry out and perform any by-law or order lawfully adopted and established by the association regarding any point of professional practice;
- (i) engaging in any practices or performing any acts similar to those acts and practices prohibited in the foregoing sections.

INQUIRIES INTO CONDUCT OF MEMBERS.

16. If the conduct or behaviour of a member of the association shall appear to the provisional council or the council to require investigation, they shall, before proceeding against such member in the Supreme Court as provided in the next succeeding section, hold an inquiry and, if required by such member, hear evidence on the matter. Eight days' written notice of the charges against him and of the date of such inquiry shall be given to the member concerned, who shall be entitled to appear at such inquiry to answer such charges and to produce evidence on his behalf, and his own evidence (if any) shall be admissible against him in any other proceedings, civil or criminal. If such member requires evidence to be heard the provisional council or council may also hear evidence against such member. Where evidence is to be heard the president or vice-president may administer the oath to witnesses and such witnesses shall be subject to the law relating to perjury.

PROCEEDINGS FOR SUSPENSION AND REMOVAL OF MEMBERS.

17. In the event of any member of the association, being in the opinion of the provisional council or council guilty of any act or omission prohibited by this Act, or offending against any by-law or regulation framed thereunder, the provisional council or the council may call upon any such member to show cause to the Supreme Court of this Colony why he should not be prohibited from practising as an architect, and why his name should not be removed from the register. All such proceedings shall be taken in the name of the association. Upon the hearing of any such matter the court may suspend such member from practice, remove his name from the register or make such other order as may seem fit and may further make such order as to costs as may seem fit. In case of such suspension or removal, copies of the order of Court shall be lodged with the Colonial Secretary and the association and noted in the register.

PENALTIES.

18. In case any member of the association shall in consequence of an order of Court be suspended from practising as an architect in this Colony, such person shall during such time as he is suspended, cease to be a member of the association, but shall nevertheless be liable to pay all moneys due by him up to the date of such suspension.

PERSONS HAVING NO CLAIM AGAINST THE ASSETS OF THE ASSOCIATION.

19. No claim against the assets of the association shall exist in the case of, or be made by, any person whose name has ceased to appear upon the register of the association.

TITLES ALLOWED TO MEMBERS OF THE ASSOCIATION.

20. Every person whose name appears on the register shall be entitled to style himself "Registered Architect, Transvaal."

RULES AND REGULATIONS FOR EXAMINATIONS.

21. The council shall, upon being elected to office, forthwith frame rules and regulations for regulating the examinations or equivalents thereto which shall be required of applicants for registration under section seven of this Act.

POWERS OF THE COUNCIL.

22. The council shall have power to do each and all of the following acts :—
- (a) to manage and superintend the affairs of the association ;
 - (b) to appoint and remove any servants of the association and to determine the duty, salary, and remuneration of the same ;
 - (c) to accept or refuse for good cause any application for registration made in pursuance of this Act ;
 - (d) to hold examinations for applicants for registration and to grant certificates to such persons as have satisfied the examiners in such examinations ;
 - (e) generally to exercise all the powers of the association, except such powers as are expressly reserved by this Act to the association in general meeting.

PERSONS IN ARREAR WITH SUBSCRIPTION NOT QUALIFIED TO VOTE.

23. No person who is in arrear with his subscription shall be qualified to be present or vote or be reckoned in a quorum at any meeting of the provisional council, or council, or of members, while he is so in arrear.

GENERAL MEETINGS.

24. There shall be held once in each year a general meeting of the association whereat every architect upon the register who is not disqualified under section twelve hereof shall be entitled to vote personally or by proxy in writing. The quorum for such general meeting shall be fixed by the by-laws.

Any question to be decided at such meeting shall be decided by a majority of the members present or represented thereat.

The council shall prepare as at the thirty-first of December in each year a balance sheet of the affairs of the association and an account of all moneys received and expended by the association and submit such account duly audited to the association at such general meeting for discussion and approval. The officers of the association who shall consist of the members of the council and of a president and two vice-presidents (who shall, however, be members of the council) shall be elected annually at such meeting, and the said officers shall retire annually but shall be eligible for re-election.

It shall be lawful for any member or members of the association at such meeting to move any resolution which is not inconsistent with the purposes and provisions of this Act.

CHAIRMAN'S VOTE.

25. The person presiding over the provisional council or council or at any general meeting shall have a deliberative as well as a casting vote.

MEETING TO PASS BY-LAWS.

26. The provisional council shall forthwith prepare draft by-laws for the association for the purposes enumerated in the next succeeding section and shall convene a special general meeting of the association in Johannesburg to be held not later than six months from the date of the coming into operation of this Act for the purpose of considering and, if approved, of adopting the said by-laws. The notice convening such meeting shall be sent to the registered address of each member of the association not later than fourteen days before the day appointed for such meeting and shall be accompanied by a copy of the said by-laws.

A majority of the members personally present or represented by proxy in writing at such meeting shall be sufficient to determine all matters to be decided thereat and the non-receipt of the said notice or copy of the proposed by-laws by any member or members shall not invalidate the proceedings at the said meeting, provided that one-third of the number of members then on the register shall be present personally or be represented by proxy in writing.

PURPOSES FOR WHICH BY-LAWS MAY BE MADE.

27. The council may from time to time, subject to the approval of the association assembled in a special general meeting called for the purpose, make by-laws for any of the following purposes, provided that such by-laws be not inconsistent with the provisions of this Act, and may alter, amend, or repeal such by-laws including the by-laws framed under the last preceding section, that is to say :—

- (a) for fixing the amount of the annual subscription payable by members and the time of payment of the same ;
- (b) for defining what shall be considered unprofessional or dishonourable conduct on the part of an architect ;
- (c) for regulating the time, mode, and place of summoning and holding ordinary and special general meetings and the quorum to be present thereat and the mode of voting and the conduct of proceedings at any such meetings and the regulations for the adjournment thereof ;
- (d) for regulating the meetings of the council and the quorum to be present thereat ;
- (e) for regulating the mode of nomination of members for election to the council and the mode of filling casual vacancies thereon ;
- (f) for regulating the times and places for holding examinations of applicants for registration and the subjects and the manner of conducting or holding any such examinations, and for fixing a reasonable fee to be paid by applicants and the conditions on which the examiners shall hold office and their remuneration ;

- (g) for regulating the mode of election of the officers of the association ;
- (h) for fixing a tariff prescribing the remuneration which architects shall be entitled to charge for their services ;
- (i) for determining the qualification and disqualification of councillors ;
- (j) and generally such by-laws as from time to time seem to the association requisite for giving effect to the provisions of this Act and for the furtherance of the objects of the association.

ALTERATION OF BY-LAWS.

28. No alteration in the by-laws as adopted at the special general meeting referred to in section twenty-six shall be made save by a majority of two-thirds of the members personally present or represented by proxy in writing at the special general meeting convened for the purpose of sanctioning such alteration. Notice of such meeting, and of the alteration or alterations to be proposed thereat, shall be sent by post to the registered address of each member of the association at least fourteen days before the date fixed for the meeting but the non-receipt of such notice by any member or members shall not invalidate the proceedings thereat provided that one-third of the members then on the register shall be personally present or be represented by proxy in writing.

BY-LAWS—WHEN TO TAKE EFFECT.

29. No by-law framed and adopted under sections twenty-six and twenty-seven of this Act and no alteration, amendment or repeal of any such by-law shall have any force and effect until the same shall have been approved of by the Government-in-Council and published in the "Gazette" whereupon they shall have the force of the law and shall be binding upon all members of the association in so far as the same are not in conflict with the provisions of this Act.

REPEAL OF BY-LAWS BY GOVERNOR-IN-COUNCIL.

30. The Governor-in-Council shall at all times have the power to repeal the existing by-laws of the association and may from time to time alter, amend and add to such by-laws, provided that such alteration, amendment and addition be not in conflict with the provisions of this Act.

COSTS OF PROMOTING THIS ACT.

31. The council may allocate such sum or sums of money as shall be proved to their satisfaction to have been expended in promoting this Act, and which sum or sums are, in the opinion of the council, reasonable, and may order the same to be paid through their treasurer to the body or bodies, person or persons, who may establish the claim or claims within twelve months of the coming into operation of this Act.

TITLE AND DATE OF OPERATION OF ACT.

32. This Act may be cited for all purposes as the Architects' Private Act, 1909, and shall come into operation and have the force of law on the publication thereof in the "Gazette."

CODE OF ETHICS to be included in the by-laws of the Transvaal Association of Architects. Incorporated under the Architects' Private Act, 1909. Promulgated in Government "Gazette" of 21st July, 1909.

1. Clause 15 of the Act is included in this code, and the following are given in further explanation of pars. *g*, *h*, and *i* of Clause 15, also par. *b* of Clause 27.

2. No member shall have any financial interest in or otherwise combine any other business with that of architecture, such as building and contracting, house and estate agency, auctioneering, merchants or any such like as the council may from time to time decide.

3. A member shall not receive, directly or indirectly, any royalty, gratuity or commission on any patented or protected article used on work which he is carrying out for his clients without authority in writing from those clients.

4. A member shall not participate in or be the medium of payments of prime cost sums or other payments made on his clients' behalf to any builder, contractor or business firm, without authority in writing from those clients. He may issue certificates or recommendations for payment by his clients.

5. No member shall guarantee an estimate or contract by personal bond, nor be party to a building contract except as owner.

6. No member shall attempt to supplant another architect after definite steps have been taken towards his employment.

7. No member shall advertise in any publication or in any other way than by a card or plate, giving name, address and profession. It is undesirable to do so on boards or hoardings in front of buildings in course of construction.

8. No member shall criticise in public print the professional conduct or work of another architect except over his own name.

9. No member shall furnish designs in competition in private work or public work except under conditions and assessors previously approved by the council of the association.

10. No member shall submit drawings in any competition not designed and prepared under his personal supervision; nor shall any member attempt to secure any work for which a competition remains undecided.

11. The schedule of charges as sanctioned under the Act shall be the minimum rates for the services rendered.

Health Congress, Leeds, July, 1909.

Report of the Society's Delegate, Mr. W. R. Braithwaite (Member.)

The suggestion of the Glasgow Corporation, made some years ago, that instead of the Royal Sanitary Institute and the Royal Institute of Public Health holding separate Conferences in the Autumn of each year, should either alternate their Autumn Meetings, or should combine and hold a joint Congress, was culminated by each Society co-operating and holding for the first time a Conference in Leeds from July 17th to the 24th.

The success of such an arrangement was amplified by the very large gathering of delegates from County Councils, Municipal Corporations, Local Authorities, and other representatives, which included many distinguished sanitarians and health experts from all parts of the Kingdom.

The Conference was formally opened on the Saturday evening by a reception given by the Lord Mayor, followed by an address by the President, Colonel Harding, at the present time the Chairman of the Royal Commission on Sewage Disposal. The address referred first to the condition of Leeds and other towns half a century ago, before the advent of the sanitary reformer, and then to the improved conditions which are to be found to-day, many devastating diseases having been almost extirpated through the administration of the Public Health Act.

On Sunday morning many of the Congress Delegates and Officials accompanied by the Lord Mayor and Corporation went in procession to the Parish Church, where the Vicar of Leeds preached an appropriate Sermon.

The precincts of the University presented a scene of activity at nine o'clock on Monday morning, when some 500 to 600 Delegates were in attendance seeking the location of the Meetings. These Meetings comprised a variety of Papers under four sections, viz. :—Conferences of Municipal Representatives, Conference of Sanitary Inspectors, Child Study Section, and Treatment of Sewage; and comprised seventeen Papers and three Presidential Addresses.

The Meetings being held between 9.30 and 12.0, it was impossible for your representative to listen to some papers of interest in sanitary matters, and if any exception may be taken to the work of the Congress, it was the abundance of good fare provided and the lack of opportunity to partake of the same.

The Conference of Municipal Representatives, the one your delegate interested himself in, was presided over by the Lord Mayor, who welcomed the visitors and expressed gratification that two great Societies interested in Public Health were able to hold their Conference in Leeds. His Lordship dealt with the progress of Municipal Government and the effect of Education in Sanitary Law. He pointed out that the knowledge gained by the expert had taught the representatives of the people to acquaint themselves with matters affecting the social welfare of ratepayers.

Mr. Percy Robinson, of Leeds, read a Paper on "Some Aspects of Town Planning in Relation to Health."

The author suggested that it was not only inartistic, but insanitary, to be surrounded by buildings or other objects violating the canons of good taste. Hitherto, the artistic side of city development had been almost entirely neglected. Art, in some form, was indispensable to man's happiness and well-being, and if he lived in an artistic atmosphere the influence was for his good, both intellectually and morally. This had been recognised by men like Lever, Cadbury, and Rowntree, and their experiments had proved the soundness and practicability of the theory. The remedy for the present state of things would appear to be the formation of an Advisory Committee of Architects, Artists, and Representatives of Educational Bodies to assist the Municipal Authorities.

"Letchworth, Town Planning and the Budget," was the next paper, contributed by Dr. Freemantle (Medical Officer of Health to the Hertfordshire County Council), who stated that as the first complete experiment in scientific town planning, it was of the greatest possible importance, both sanitary, social, and economic, in view of the Housing and Town Planning Bill. Letchworth was a striking example of increment already valued which was obviously due to the Promoters of the City, and in only a small degree could it be due to the community, or its elected representatives the Parish Council, still less the State.

An interesting discussion followed in which one speaker said the problem to solve was how to get a good looking house for a man with a family and only a pound a week to live upon. This question appeared too difficult a one to answer.

On Tuesday, the Engineering and Architectural Section dealt with two important questions. The proceedings were opened by the President, Councillor Bowman, an architect of Leeds, who dealt at some length defending the erection of back-to-back houses as erected in Leeds. This address was followed by a Paper from the City Engineer upon "Leeds' Unhealthy Areas," in which he detailed the work already accomplished, and what was still to do by the Corporation with an area of about 66 acres.

The discussion did not take a favourable turn towards the position of Leeds, and some pointed criticisms were made on the Chairman's address, yet it cannot be said that the various suggestions made were of great merit, and a suggested plan of a through house in which it was suggested that the domestic scavenging could be carried through the house, and thus no back road was necessary, left the impression that the modern back-to-back house was even preferable to the suggested plan.

The time occupied in the above discussion prevented any time being left to discuss a Paper on "Planning of Elementary Schools," by the City Architect of Bradford, Mr. R. G. Kirkby, who suggested more originality in planning School Buildings of a more suitable character, and illustrated his paper with Plans of Schools

erected or in progress in Staffordshire, Derbyshire, etc. In such schools the classrooms could be scoured with fresh air, and scholars could be taught to love fresh air as Nature intended they should. Provision for bathing would be a welcome feature, with the addition of spray baths, and occasional douche and slipper baths.

The proceedings on Wednesday were opened by an interesting address by Dr. Newman, Principal Medical Officer of the Board of Education, on "Child Mortality in Relation to the Health of the State," who said he had been advised to make his paper "brief, dull, and innocuous," but certainly not one of these adjectives was applicable to his remarks. He strongly insisted that those who concern themselves with the physical regeneration of the race must begin their labours amongst the children, and children in the very earliest stages of infancy.

The Engineering and Architects' Section devoted the whole morning to no less than seven papers, all dealing with the purification of Water Supplies. Judging by the crowded attendance and the attention paid throughout the whole sitting, the subjects appeared to be regarded as of the utmost importance. There was little time for discussion, but those who took part laid emphasis on the increasing need for a pure water supply.

There was no sitting of the Architectural Engineering Section on Thursday morning, a number of those interested taking a morning's visit to Batley to view several works treating with trade wastes.

A very instructive address was given by Dr. Whitelegge (H.M. Chief Inspector of Factories), on Industrial Hygiene to a general meeting of delegates, in which he called attention to several deficiencies commonly to be observed in this country in the provision made for the safety, cleanliness, and efficient ventilation of Factories.

Friday, the 23rd, brought to a close the sitting of each Section of Congress, and they were marked by a noticeable falling off in attendance. The Engineering and Architectural Section subjects comprised "Road Construction" and "Smoke Prevention."

The visitation to over thirty various works of industry, combined with numerous excursions to objects of interest in and around Leeds, Garden Parties, Receptions, Conversazione, and evening Lectures, made the representation to the Congress a very pleasant one.

In summing up the work of the Congress, one cannot but admit the benefit to be obtained by meeting so many persons who are interested in the many and varied subjects, and which are of the greatest social and national importance, yet, without in any way attempting to detract from the usefulness of the subjects introduced, the impression to my mind was that too much was attempted in too little time, and if fewer papers had been prepared and more time allowed for discussion, the Congress would have had a more practical value. In more than one instance six papers were to be read, and discussed, in the short space of one and a half hours.

How the Statutory Registration of Architects would Benefit the Building Industries.

In the Transvaal as in other countries, the evidence of leading members of the building trade has been taken in Committee, and such evidence has always gone to show that the building industry would benefit by such an Act.

Mr. M. C. A. Meischke, the Chairman of the National Federation of Building Trade Employers in South Africa, in speaking before the Select Committee on the Architects' Bill last June, gave evidence to the effect that builders were in favour of Registration of architects in that they were more assured that they would get fair treatment from the architects. Mr. Reid had mentioned the question of the final certificates being withheld sometimes by unscrupulous architects, either with the object of pressing the builder when he was wanting money to get money out of him, or for some other purpose. When the Bill passed as he hoped it would, it would mean that the Council of Architects had a hold upon its members, and when there was any unprofessional conduct they could bring it before the Institute, as provided for under Clause 13 and strike them from the roll. Sometimes architects would do anything in order to get work, and would offer their services at a very low rate. Of course, they had to make up their loss in some way by getting money from the builder. There were also unscrupulous builders who lent themselves to that, giving architects an extra commission which had to come out of the work, for which, as Mr. Reid stated in the case of the Dutch Reformed Church, the proprietors, had to pay, because the architect gave certificates for extra work which had not been done, or if they could not increase the bill they decreased the amount of work. Without Registration they could not do anything, because the architects were powerless, but if the Bill passed, a case like that could be brought to the notice of the Council and they could take steps. They considered that through the passing of this Bill, builders and the public were more protected as a class. Another point was that if it were secured that architects acted fairly there was less risk for the builders, so that they could take work at a cheaper rate than he had to do sometimes at present. Architects at present were always allowed a margin, especially where it was a question of lump sums provided for in the contract. If an architect was unscrupulous he spent the money and shared it with the builder or proprietor or otherwise. That was an abuse which would be done away with when the Bill passed.

Again, if the Workmen's Compensation Act was enforced it was in the interest of the public at large that the premiums remain as low as possible. If they were going to be raised the public would suffer. The builders had to erect scaffolding. If the architect had to keep up his reputation he also saw to the scaffolding used and to the planks, and if he was not satisfied he directed the clerk of works to see to

it because he was in a way responsible for it. To-day nobody was responsible for it and if more accidents took place, through carelessness of the men, the Insurance Bill would be increased, which was not in the interests of the public.

The issue of certificates was one of the greatest things they had to protect. Even the builder suffered as well as the proprietor. The architect, being the agent of the proprietor, dealt with his client's money. If there was any collusion between the two the proprietor suffered, if not, the builder suffered. When the Bill passes, the Council of Architects will be enabled to see that the members of the profession run straight and the builders will have redress by going to the Council and reporting dishonest practices. Therefore, they were in favour of the Bill. As Mr. Tindall had said, it was also in the public interest to get architects of standing to put up decent buildings, with architectural features. It was for the benefit of the country. Then, of course, they would have in future a stricter supervision of the work. To-day, builders worked in the interests of their trade ; but under the Act, architects and builders would work together and the public at large will benefit by it. Mr. Jacobsz had said something about builders and architects. Of course, in country districts a builder can design and plan a building. But he is not an architect ; he could only style himself a builder. He does not come under the Act because he is not an architect ; he is a builder.

The Society of Architects' Visit to Rochester.*

A VERY pleasant and interesting day visit was made to Rochester on Sept. 11th by members and students of The Society of Architects, being the last for the present season of the successful series of sketching and photographic outings arranged by Mr. Herbert Y. Margary, Hon. Secretary of the Students' Section. The party, which included Col. F. Seymour Leslie, R.E., Past-Vice-President, Mr. B. R. Tucker, Treasurer; Mr. C. McArthur Butler, Secretary; and Mr. Margary, travelled down in reserved compartments by the 9.50 a.m. express from Victoria to Chatham, where they were met on the platform by the President of the Society, Mr. George E. Bond, J.P., of Rochester, who gave them a hearty welcome and genially and hospitably entertained them throughout the day. Taking tramcar into Rochester, the visitors were introduced to Mr. Edwin Harris, who kindly acted as cicerone, and whose knowledge of the city, its walls, buildings, and antiquities proved to be extensive and peculiar. Full of enthusiasm for the relics of the past, with a justifiable pride in his native city, and a keen memory for Dickensian allusions relating to the district, Mr. Harris, with many a jest, quip, and crank, first led the party to his own shop and residence in Eastgate, a 16th century house, still containing in the kitchen on the ground floor a wide-mouthed open fireplace, and here and there much contemporary oak panelling and carving. The members next visited Eastgate House, a corner building in the same main thoroughfare, erected by Sir Peter Buck in 1590; which, after passing through many vicissitudes, was acquired by the corporation, and was transformed into a museum, under the direction of Mr. George Payne, F.S.A., the erudite curator. The Elizabethan building, with its quaint over-sailing gables and irregular bow windows, is a picturesque feature of the irregular High Street; it has been identified with the Nun's House in *Edwin Drood* and the Ladies' Seminary of the *Pickwick Papers*, although there, by an author's license, it is removed to Bury St. Edmund's under the title of Westgate House. The boldly-plastered panelled ceilings, with figures of mermaids, bucks, and lions, and coats of arms, and the equally rich Jacobean overmantels, the broad planks used for flooring, and the well-treated oak staircase, with its high-placed windows, and the panelled walls of several periods, were viewed with great interest. The rambling, picturesque house has been carefully restored under Mr. Payne's direction and many of the windows walled up when the iniquitous window tax was imposed have been opened out afresh. The collections of flint weapons, pseudo-Samian ware, Roman, Celtic, Anglo-British, Saracen, and Norman fragments of bronze, iron, and earthenware displayed in the showcases testified to the continuity of occupation of the city during very many generations and by diverse races. Facing Eastgate House, on the opposite

* From *The Building News*, September 17th, 1909.

side of the by-street, and also flanking the High Street, the new Technical Institute, won in competition by Messrs. Russell & Cooper, has been erected; the façade to the side street in red brick and stone is a clever Renaissance design, but it was obvious, when descending Star Hill from Chatham railway station, that the architects must have been unable to persuade the city education committee to allow funds for adequately treating architecturally the huge, gaunt rear wall of brickwork which rises far above the neighbouring roofs and forms the most conspicuous feature riverwards in a general view of the city from the higher ground to the south-east.

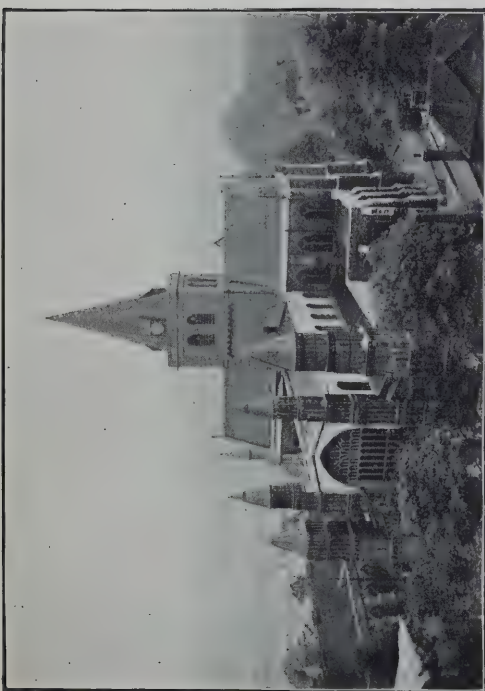
Nearly facing Eastgate House, in the High Street, is a picturesque half-timbered group of old houses, now occupied by shops. A little further up was seen the Corn Exchange, rebuilt from drawings by Messrs. Flockton & Abbott, of Sheffield, in 1871; but retaining as a projection from the first floor of the present edifice a huge clock, the gift, as the inscription shows, of Admiral Sir Cloudesley Shovel. The party then entered a narrow courtyard on the south side of the High Street, leading into a kitchen garden, which occupies the moat of the old city wall, a large section of which is yet open to view. In a lane on the other side of the main thoroughfare is a second and still finer fragment of the wall and its moat, ending in a rounded bastion at the return south-eastern angle of the fortification in Corporation Road. Mr. Harris's assignment of a Roman origin to the lower courses of walling below the undoubted work respectively of the Norman and Edwardian periods, was not convincing to the minds of all the visitors, it being thought (but not expressed) that local prejudice occasionally biases the judgment of local antiquarians into antedating the age of masonry.

Another halt was made at the Guildhall, a red-brick building with market space recessed under the central portion, supported on Ionic columns, the work of Wren; the cupola has as a weathercock a large and beautifully-executed model in beaten copper of the "Rodney" man-o'-war—hence the local threat of police-court proceedings: "I'll put you under the 'Rodney.'" Here the members were met by the Chief Constable of the city, Mr. Arnold, who showed them the dark cell—a whitewashed, empty, stone-floored apartment, absolutely without light or ventilation save a grating over the heavy door, which, until Mr. Arnold was appointed, six years ago, was used as a lock-up for drunk and disorderly persons. The Chief Constable said he was glad of the opportunity for architects to inspect this inhuman hole, as he was just now endeavouring to persuade the city council to destroy it, and build on the site a recreation-room for his constables. The first floor of the Guildhall, reached by a broad stone staircase, proved a handsomely-proportioned room, having a good coved and plastered ceiling, and on the walls a series of about a dozen full-length portraits of local celebrities, ranging from Sir Stafford Fairbourne, Sir Cloudesley Shovel, William III., and Queen Anne, to the late Mr. Wykeham-Martin, M.P. Next to the Guildhall the scaffolding is being struck from the new offices for

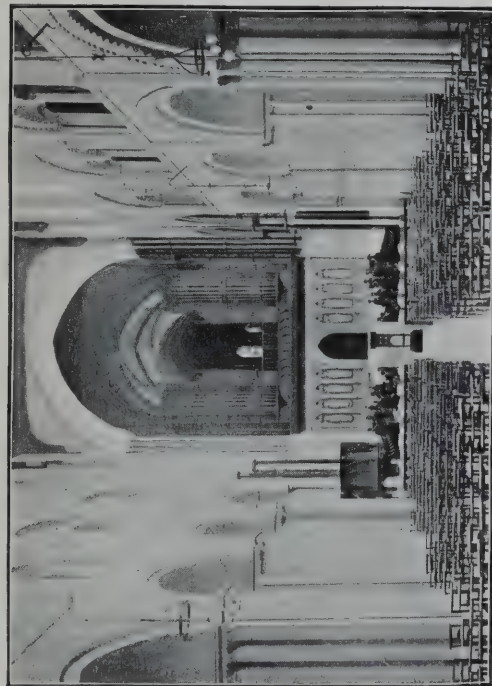
the Medway Conservancy Board, erected from the designs of Mr. G. E. Bond. The building is Renaissance in style, faced with Bath stone, Portland stone being used for dressings, and at the rear is a lofty red-brick tower, with steep, slated belvedere, ending in a cupola, and intended for use by the harbour master as a look-out up and down the river. The offices are being built at a cost of some £4,000 by Messrs. Seager, of Sittingbourne.

The members next spent a profitable and all-too-short hour in and around the cathedral. The venerable building is small and lumpy in outline, and it is hard to say whether it has suffered most from poverty and neglect or from ill-advised repairs. The most picturesque external view (apart from the familiar one from west-south-west gained by the visitors later in the day from the parapet walk on the Castle keep) is that from a cleared space to north-east in the High Street, where the grey stone 13th century choir, Scott's gaunt, roofless gables at the east end and north-east transept; the black, almost shapeless, outline of Gundulph's tower, the Norman nave, the ruddy masses of the north-western towers of Pearson's new front, are all in view, and have as a central feature the yellow Ketton stone tower and stumpy leaden spire recently added by Mr. G. Hodgson Fowler. Sir Gilbert Scott's restorations were only less drastic than those of Lewis Cottingham, and were obviously left incomplete owing to the eternal lack of pence. The reconstruction of the west front by the late J. L. Pearson, carried out between 1880 and 1890, was massive in construction and harmonious and dignified in treatment, and nowadays we smile at the shriek of despair with which the anti-restorationists greeted the removal of the incongruous and shaky turrets respectively of the 16th and 18th centuries, and of the miserably thin and shaky walls replaced during that rebuilding. The treatment of the central tower has not been so successful. Cottingham's tower, which it has replaced, was wretched in detail, and poverty-stricken in execution, but the proportions were effective; the new tower follows in its facing to the stage cut through by the modern main transept roofs the style of the Early English work destroyed in 1749, but there is only one clear stage above the crossing, finished with a painfully plain parapet, whereas to pull the masses of the Cathedral limbs together, and to accord with the adjoining Castle, at least another storey seemed to be imperatively demanded. The octagonal lead-covered spire, of Late Decorated type, is, again, squat in proportions—although it follows the lines of the old engravings—and the dormer lights at the base are too broad-set to be happy in effect. It is to be hoped that at some future day the high-pitched roofs will be reared over the choir and north-eastern and south-eastern transepts, and that the opportunity will then be taken to replace the miserable slated roofs with lead-work. The deeply-moulded Late Norman doorway in the centre of the western façade is a grand and unique feature, and redeems Rochester, in spite of the fabric's general clumsiness and flimsiness of construction.

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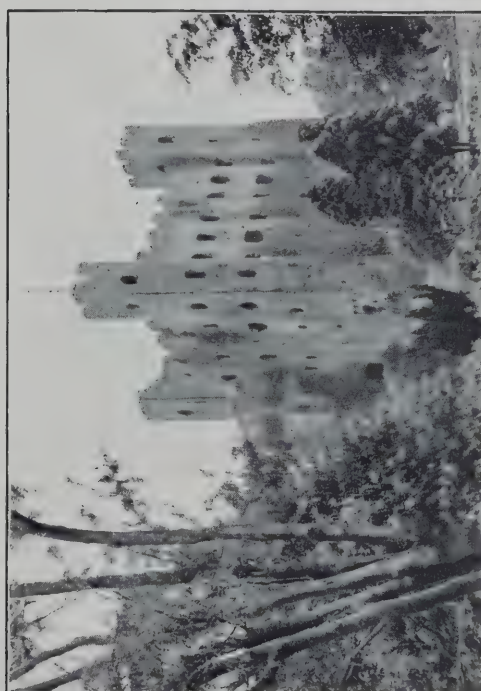


ROCHESTER CATHEDRAL.



INTERIOR LOOKING EASTWARDS.

The Society of Architects'
Visit to Rochester.



A GLIMPSE OF THE CASTLE.



ROCHESTER FROM THE CASTLE.

(Photographs by Mr. B. R. Tucker, Hon. Treasurer).

Entering the building, it was seen to be a series of architectural puzzles, and the time was all insufficient to devote to their solution. On the floor of the western bay of the nave, on the north side, are incised the lines of the Saxon or possibly Roman-British cathedral, of which the foundations were discovered three and twenty years ago—an apsidal, aisleless, and untransepted building, with very thin walls. Of the square-ended cathedral, without transepts or central tower, built in 1080-90 by Gundulph, nothing remains but the western end of the crypt, the keep-like tower on the north side, and the lower parts of the thin nave aisle walls, and five piers and the arches on the south side of the nave at the west end. Thirty years later the nave was remodelled and completed by Bishop Ernulph, but the fires of 1138 and 1179 rendered a rebuilding of the eastern portions of the church unavoidable. The choir and eastern transepts were rebuilt and reconsecrated in 1227, Gundulph's main north transept was reconstructed on broader lines a little later, and the south transept and two eastern bays of the nave were rebuilt between 1280 and 1310. The whole nave would evidently have been reconstructed in the Early Decorated style, but for the sudden falling-off in pilgrims' offerings at the shrine of St. William, the baker from Perth, who was murdered by his servant on the outskirts of the city, a decrease in popularity due to the growing fame of St. Thomas à Becket at Canterbury. The only subsequent work of any magnitude was all carried out in the portions then existing, and included the widening of the south aisle, the erection of the central tower, since thrice rebuilt, the throwing out from the south nave aisle of the nave of a Lady-chapel of three bays, the eastern bays of the south transept forming its chancel, the construction of the solid screen of stone under the eastern tower arch, and the provision of sundry tombs and doorways. In the Perpendicular period the nave clerestory was rebuilt, and the great eight-light window broken through the west wall. The nave triforia have no floor, but are, like those at Waltham Abbey, open to the nave aisles, and while preparations were made for vaulting the abnormally-placed Lady-chapel, the work was never carried out. The best-proportioned and lighted portion of the edifice is the north transept, and it is also the most soundly constructed. The alterations that were made during progress by the Early English builders who reconstructed the east end of the nave are very difficult to follow, and no attempt was made to bring them into harmony. Close against the end wall of the south transept, under the bust in firestone of Richard Watts (erected by another Richard Watts in 1736, more than a century and a quarter after the last benefactor's death), and the Dickens cenotaph, has been erected a memorial to the late Dean Hole. The alabaster altar tomb by Mr. Hodgson Fowler is finely proportioned, but the Carrara marble effigy, the work of Mr. F. W. Pomeroy, A.R.A., seems hardly massive enough to recall the famous preacher, humorist, and rose-cultivator. Passing into the well-elevated choir, its gloominess, due to the solid walls which shut it off from the aisles, is oppressive, and the garish tiled dadoes and painfully thin and

wiry mid-nineteenth-century choir fittings do little to enhance the effect. Behind the stalls, designed by the late Mr. J. P. Seddon, are some of the original low 13th century choir desks; they are plain, but of good character and workmanship, and scarcely 18 in. in height, not having been used for books. The retro-choir and eastern transepts are, like the choir, poorly lighted, and the portions of the triforia here were built up both on north and south to form chambers. The monument to Bishop John De Sheppey, found walled up in 1825 by Cottingham, is of great interest, notwithstanding the mistaken restoration by its discoverer of the beautiful canopy, and the absurd colours used in repainting the effigy. The well-known and very beautiful chapter-house doorway is covered with flat diapered carving and small heads of great individuality; it dates from the days of Harold de Hythe, 1319-52, and was originally the monks' principal approach from the later cloisters, which occupied an abnormal position on the south side of the choir. Looking through this doorway into an uninteresting and ill-fitted antechamber, it was noticed that, as usual at Rochester, the modern chapter-room was kept locked. Passing through the south choir aisle, the door into the Dean's garden was specially opened for the visitors, allowing them to examine the roofless remains of the rectangular 12th century Chapter-house, placed, in exception to the rule, on the west side of the cloisters, with which it communicates by three richly-treated Transitional arches now blocked up. The elaborate arcades of the east wall of the 12th century cloisters well repaid study, and a return was then made to the Cathedral. The so-called monks' penance chamber, in a half-basement sunk below the south choir aisle having been seen, the members passed into the well-lighted crypt—six irregularly-spaced alleys formed by slender columns having 13th century bell capitals. In a walled-off corner on the south side of the crypt a museum has been formed of fragments of carving and sculpture and tiles found during restorations and excavations. These are being arranged in chronological order by Mr. George Payne, F.S.A., and are of great variety and interest.

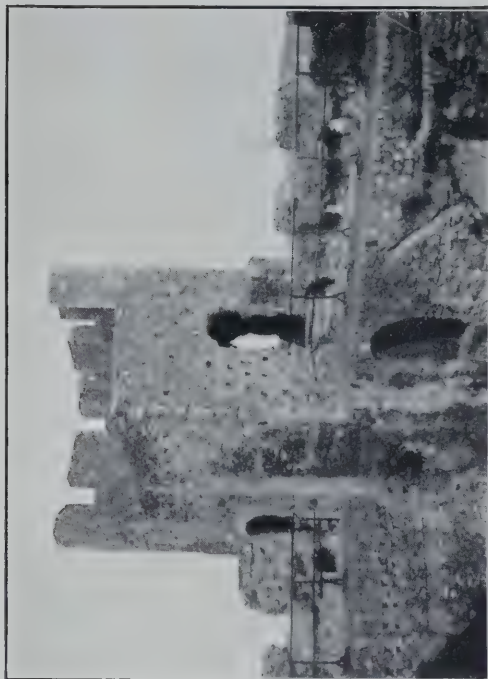
On leaving the Cathedral Mr. Bond entertained the visitors to luncheon at the historic coaching-house, the Bull Hotel, and afterwards the Castle was visited, Mr. Harris again acting as guide. The picturesque Norman keep, the dominant feature of the city from across the river, and the subject of many a sketch and painting, is set on a knoll or rock which has caused an abrupt turn in the Medway from north to east just below. The Castle and grounds were acquired by the corporation, and have been well-maintained. The restoration effected under the supervision of Mr. George Payne, F.S.A., has been carefully carried out, and all rubbish has been removed from within the keep, leaving a mere shell of 12 ft. thick masonry, divided by cross-walls, and running 124 ft. from dungeon-basement to battlements. The grooves worn by the portcullis, which was worked from the chapel in the floor above, are much abraded, and there are traces in putlog-holes and weatherings of the former

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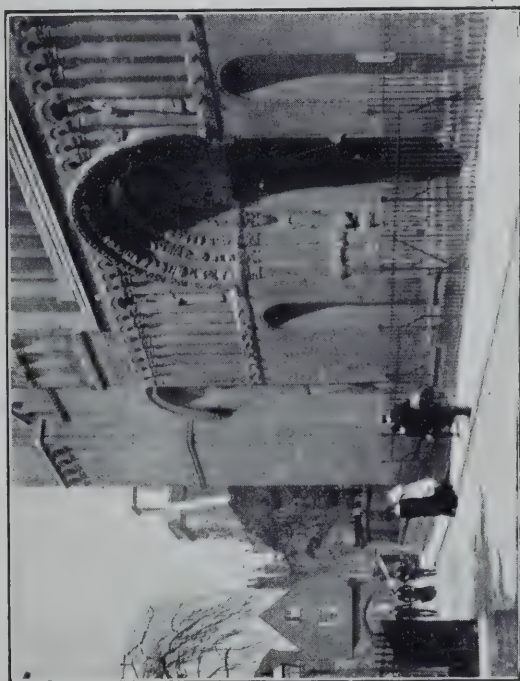


RESTORATION HOUSE.

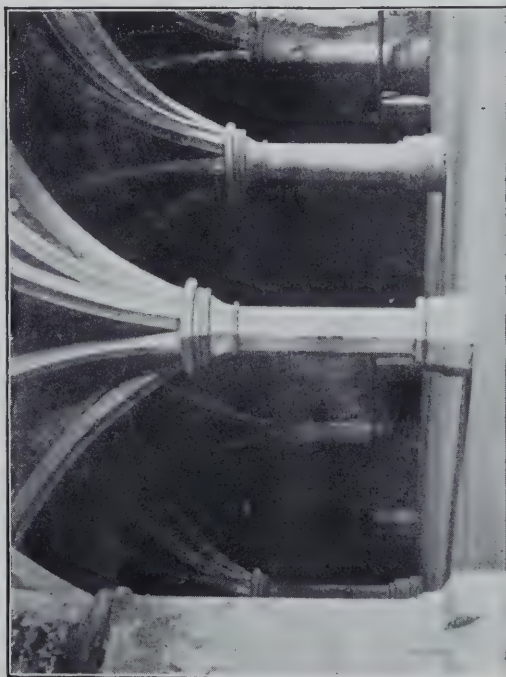


A CORNER OF THE CASTLE.

(Photographs by Miss Hammond and the late Mr. J. C. Jackson).



WEST DOORWAY OF THE CATHEDRAL.



THE CRYPT.

roofs and floors. Save for a fine double-mullion Norman window, in incomplete Late Norman archway on the topmost floor, intersecting earlier post-Conquest masonry, and some examples of bold zigzag and chevron mouldings, there are few details in the Castle to repay the sketcher.

The "House of the Six Poor Travellers," immortalised by Dickens, proved of much interest. Founded under the will of Richard Watts, a mayor of the city (who lived at Satis House, an E-planned mansion, now subdivided into dwellings, between the Castle and the river), it was provided that half a dozen poor travellers, "not being rogues or proctors," should receive one night's lodging and entertainment, consisting of half a pound of meat, one pound of bread, and half a pint of beer, and in the morning 4*d.* each. The house, which was restored some two and thirty years ago, is soundly constructed of stone in two stories; in front are the caretaker's apartments, and behind them on each floor three whitewashed cubicles, each provided with a bed, and bolted from the outside; the upper storey looks out on to a narrow gallery guiltless of windows. Pans are provided for the men to wash their feet, faces, and hands, and the whole place is well kept and scrupulously clean and tidy. The guests are selected at the police-station from twenty applicants nightly, and the entries by the men in the book show that they are chiefly an average of genuine working men in search of work, and on tramp between London and the Kentish towns.

The last place visited was Restoration House, the property of Mr. Stephen T. Aveling. Built of red brickwork between 1580 and 1600, it is of the E-plan so fashionable during Elizabeth's reign, and has the hall in the centre. The centre of the front is said to have been restored by Sir Francis Clarke in the middle of the 17th century, when a new and wide double staircase was built. The historic interest of the building centres in the tradition that Charles II. slept in one of the rooms just prior to his restoration to the throne, whence the house gained its present name.

The members then returned to the Bull Hotel for tea, provided by their President, and at its close, on the proposition of Col. Leslie, a hearty vote of thanks was accorded to Mr. Bond, Mr. Harris, and Mr. Margary for having arranged the visit and guided and entertained the party.

The illustrations are from photographs by Mr. B. R. Tucker, Hon. Treasurer, Miss Hammond and the late Mr. J. C. Jackson, the latter being taken on the occasion of a previous visit in 1903.

The Seven Churches of Clonmacnois.

THE ruins of the "Seven Churches" of Clonmacnois are, says *The Irish Builder*, situate on the Shannon, in King's County, nearly in the centre of Ireland.

A monastery, or religious city, was founded here A.D. 545-548, which rose to great importance, though its foundation was almost accidental, and its founder gave it no fostering care. St. Kieran, "Mac an t Saor," "Son of the Carpenter," as he was named from his father's occupation, had settled as recluse on Inis Ainghin (or Hare Island in Lough Ree), and conceived the idea of founding a little wooden church and cell lower down the Shannon, at a lonely spot called Cluan Maccunois, Clonmacnois, Ard Tibra, or Drom Tipraid. While engaged on the work he was found by a fugitive, Prince Dermot, who aided him to set the first posts of the church, thereby earning his blessing and a prophecy of coming honour. Soon afterwards Dermot was elected King of Ireland, and endowed the establishment. The place grew in fame and learning, and many churches and villages of huts were crowded round Kieran's cell. Omitting allusion to its long lists of noted men, some even of European fame, we briefly record some of its eventful history. It suffered often from plunderers and destroyers, both Norse and Irish. The Norse King, Turgesis, in his attempt to break up the Irish Church in 845, enthroned his wife, Ota, on the altar in the chief church at Clonmacnois, whence she gave her oracles. It was plundered by the subjects of Donough O'Brien in 1042, but he punished the culprits, and made amends to the monks. The Normans did violence to it several times about the year 1200.

Omitting mere sites and foundations, there remain two round towers, three crosses of large size and elaborate sculpture, eight churches, a castle, and two holy wells, and some 200 inscribed tombstones and fragments.

The ruins, with the exception of the Nuns' Church, are grouped together, the Castle lying near the river, the others included within the graveyard, in which so many princes, prelates, and sages lie buried.

To turn to the records of the buildings, the Aglish Beg or Temple Kieran was reputed to be on the site of that church founded by the patron about 545, and covered his tomb. It is a very small early cell. In it were found the two beautiful bronze and silver Irish croziers now in the collection of the Royal Irish Academy. It was an oblong oratory, not rectangular, over 12 ft. long and 8 ft. wide inside the walls, which are about 2 ft. thick. It had an antæ at each corner, but the south-western one and part of the rude west door have been rebuilt.

The great Church or Cathedral was restored about 910 by the Abbot Colman MacAillel and the High King Flan, son of Melachlin. They also erected the High Cross near it, still inscribed with their names. This church was again restored by

Cormac, son of Conn m bocht and Flaherty O'Lynch, between 1080 and 1104; by Tomaltagh MacDermot in 1330, and by the Dean Odo, whose name appears above the elaborate north door, about 1460. It was destroyed by the English in 1552, and again restored by the Vicar-General, Charles Coghlan, in 1647.

The Cathedral, also called Temple Dermot, Temple Coghlan, and in older times "Damhliag" or stone church, hardly retains any suggestion of its early date save in the projecting antæ. Here was buried Roderick, the last native King of Ireland (died 1198), and his father, King Turlough. It is an oblong structure, measuring 62 ft. by 28 ft. 8 ins. inside. It had a curious arrangement in the chancel, which was divided by pillars into three vaulted chapels. The attached piers and groinings at the sides alone remain. The other internal details are plain, but the west and north doors were elaborate on the outside; the northern is richly moulded with figures of St. Francis, St. Patrick, and St. Dominick, and a commemorative inscription overhead to Dean Odo. There is some delicate carving on both doors, with foliage and small dragons. The east gable has fallen, and also most of the west gable, with the arch of its door. At the south is the vaulted sacristy, with an apartment over it having a curious octagonal chimney and window-like slits for the smoke.

Temple Conor was probably built in 1010, when it was endowed with lands by Cathal O'Connor. The west door and south window, still existing, belong to that time. It measures 42 ft. 8 ins. by 26 ft. 6 ins. wide, and has a burial enclosure to the north. The church has been modernized, and is still used as a Protestant place of worship.

Temple Killen, a levelled church barely traceable to the east of Temple Finghin, was built before 968. The causeway from it to the Nuns' Church was made at two periods—the first, the eastern portion, from the Nuns' Garden to the Cairn of the Three Crosses, in 1026; the second, westward "to Cros Chomgaill at the entrance to the street," in 1070. St. Finian's or Finghin's Church, or Regees Finghin or Finian, is mentioned in 1015, when the great storm overthrew its oak tree, but the neighbouring walk of Tober Finghin and a cell near it have records from 610 which probably refer to the church site.

This church embodies at the intersection of its nave and choir the unique and finely-built Round Tower called "Clogas Beg" and "MacCarthy's Tower." The church consists of a nearly levelled nave and a well-preserved early chancel, 8 ft. square. The choir arch has three orders, two probably of the late eleventh century, the innermost much later. The tower has been deeply cut into in order to square the angle of the nave. It is a disputed question whether it is not earlier than the church in which it is embedded. It is certainly not an afterthought, and seems (despite assertion to the contrary) to be contemporaneous.

Temple Kelly, now also levelled, was probably the church built in 1167 by Conor NaCeallaigh, Chief of Hy Many, on the site of the older Hospital of Isill Kieran.

The great Round Tower is attributed to Fergal O'Rourke, who was slain in 946. The Register of Clonmacnois says "he built a small steep castle or steeple called the Irish Claicthough," at least he repaired it, and it was further restored after its partial destruction by lightning in 1134.

The Round Tower called "Clogasmore" and "the Steeple," is, for the most part, of finely-fitted ashlar. It is over 60 ft. high and 58 ft. 8 ins. in girth; the round-headed doorway is 11 ft. above the ground. The upper storey has been rebuilt roughly; four of the older storeys remain, so probably three were destroyed. Its base is slightly out of plumb, and overhangs a few inches.

Temple Hurpain and Temple Doolin, or MacLaffy's Church, lie to the south, the latter having been attached to the east end of the former. The older church measures 31½ ft. by 16 ft. inside; it retains the antæ side walls and simple round-headed east windows, with the gable of a very early Celtic oratory. A late pointed door was inserted in place of the original western entrance in 1689, about which time was built Temple Doolin, a plain building, measuring 22 ft. 10 ins. by 12 ft. 9 ins. inside; the whole is 57 ft. 3 ins. long.

Temple Melaghlin, or Temple Ri, lies to the north-east of the last, and south-east from the Cathedral. It is a plain oblong twelfth century building, 41 ft. by 17 ft. 8 ins. inside, the walls being about 3 ft. thick. The double east window has round heads with shallow mouldings round the arches and piers, and wide splays.

The church has a gallery at the west end; the south window is pointed.

To the west of this group of churches stand two high crosses. "The Cross of the Scriptures," as appears by a defaced inscription, was put up by Flann, son of Melachlin, and King of Ireland, and the Abbot Colman, about 908. It has the unusual feature of the ring being an entire circle on each face, and shown as held by two plaques. The faces and sides are decorated with carvings of the Crucifixion, the Last Judgment, and scenes from the Passion. One panel probably represents St. Kieran and King Dermot setting the first post of the church. A procession of chariots appears on the base. The second High Cross, near Temple Hurpain, is mainly covered with interlacings and other decorations. It has also a carving of the Crucifixion. A worn shaft of a third cross stands to the north of the Cathedral.

The Normans in 1212 built a castle at Clonmacnois, probably the site of an earth-work called Lis-an-Abbaid, the residence of the Abbot, which had been burned on Easter Day, 1135. The King ordered compensation to be paid to the Bishop in 1216 for damage done to his lands and gardens by the construction of the fortress. The castle stands to the west of the cemetery in a square entrenchment. It consists of a rudely-built keep, courtyard, and gateway. One of the turrets has fallen against the main building, evidently from the result of an explosion.

The ancient causeway leading to the Nuns' Church is still fairly complete. Near it was discovered evident trace of the "Cairn of the Three Crosses," in which was

found a slab inscribed, "Oriot an Thurcain las andernad in Chrossa," a prayer for Thurcan who made this cross.

The Nuns' Church stood before 1026, and was repaired by the ill-starred Dervorgilla, wife of Tiernan O'Rourke. After 1170 she retired to it a penitent, and there died and was buried. The architecture, however, seems to belong to the period about 1100.

The Nuns' Church consists of a nave and chancel—nave 36 ft. 3 ins. by 19 ft. 6 ins., and chancel 14 ft. 3 ins. by 13 ft. 3 ins. It retains its richly carved west door and chancel arch, dating from about 1100, with chevrons and beading, enclosing fantastic heads and a small sheelanagig or luck-bringing grotesque. The chancel arch was on the point of falling in 1738; it afterwards fell, and was restored by the Kilkenny Archæological Society (now Royal Society of Antiquaries) in 1866.

The final blow fell on Clonmacnois (after a long period of obscurity as a Bishop's See and Abbey) in 1552, when the English plundered and dismantled the churches and carried off the bells out of the Cloictheach.

Slight attempts to repair the Cathedral and Temple Hurpain were made respectively in 1647 and 1689, and some most judicious restoration was carried out by Reverend James Greaves, Hon. Secretary of the Kilkenny Archæological Society (now the Royal Society of Antiquaries of Ireland), in 1865.

Clonmacnois was vested in the Board of Works in 1880, since when several small works of conservation have been carried out.

Correspondence.

To the Editor of "The Journal of The Society of Architects."

Registration in the Transvaal. A Correction.

SIR,—Your comments in the August Journal on our Local Act have been read with considerable interest, and the criticisms offered therein are generally of a useful character.

In some respects, however, the writer has overlooked the explicitness of certain Clauses, particularly where he states that "It therefore appears as if the Councils of all architectural bodies in all English-speaking countries will be responsible, in admitting to their membership, for giving a qualification which at any time might carry with it the right to Registration in South Africa." Our Act only applies to the Transvaal and *not* to South Africa, and the writer of the article referred to has overlooked the wording of the Clause which he criticises as otherwise he could not have penned the sentence quoted.

The Clause states that persons who were *prior to or at the date* of the coming into operation of the Act registered as members of architectural associations of recognized standing can claim by virtue of such membership Registration in the Transvaal, but persons admitted subsequently to such date to any society unless they have passed an examination of or equal to those of the R.I.B.A., or The Society of Architects of London, will not be eligible for Registration unless they first pass such an examination. This means that newly-elected members hereafter joining The Society of Architects will *not* be eligible for Registration here, unless they have passed some examination, and this applies *inter alia* to all societies who do not admit members solely on a recognized examination test. This, therefore, clearly sets up an examination standard for the future while making provision for persons who had already considerable experience in the profession at the date of the passing of the Act. The only defect—one which I made personal but not entirely successful efforts to have remedied with my colleagues in the Transvaal Institute of Architects—of this arrangement is that men of age and standing in other countries who do not happen to belong to some Institute will be barred here, unless they pass an examination, an obvious hardship on men in middle life. A modern Sir Christopher Wren who did not belong to an Institute could not be registered here without examination, nor could an architect who had been in practice here at one time and who returned here after prolonged absence dating from before the passing of the Act, unless he happened at some time to have belonged to some Institute. This is an absurdity to my mind, but the Transvaal Institute thought my proposals to obviate this too broad and refused to agree. I wished to allow any architect of a few years' experience in practice or any assistant of ten years' experience in any country at the date of the passing of the Act to register. This proposal was rejected and the difficulty to which its omission gives rise must be obviated at an early date by an amendment.

As regards Articles, the provision made in our Act suits the country. The oscillation of business renders Transvaal architects unwilling to bind themselves to pupils by Articles, as often architects wish to move about to follow the flow of business to other parts, and also because pupils paying premiums are rare here, most youths or young men receiving £5 per month from the start. The Clause requiring experience as an assistant is therefore wise as it covers the articulated pupil as well as the much more common general assistant.

Our Act was founded mainly on the Accountant's Ordinance of 1904, which has been satisfactory. No doubt in detail it may by experience be found necessary to improve it.

We are fortunate in getting the Act through before Union was consummated, as the new Union Parliament will be too busy for years to touch such legislation. There is a movement afoot now to federate all the architectural bodies in South Africa, so as to secure in due time the passing of a South African Act of Registration. In this federation your local branch hopes to take a large share. The ultimate result must of course be the creation by Parliament of a South African Institute of Architects, and it is suggested that when this body is eventually formed His Majesty be prayed to extend to it the title of "Royal." When this Institute comes into being the Provincial Societies will no longer be necessary.

Our present Act admits examinations of recognized standard from any country in the world, and is not confined to only British Countries as your Article seems to indicate.

Johannesburg,

EDWARD H. WAUGH.

August, 1909.

[The full text of the Bill is published in this issue.—ED.]

Review.

Building Construction : A Text-Book on the Principles and Details of Modern Construction for the Use of Students and Practical Men. By Charles F. Mitchell, assisted by George A. Mitchell. Stages 2, 3 and Honours. Sixth edition, thoroughly revised and much enlarged. (Fortieth thousand) with about 900 illustrations. London : B. T. Batsford, 94, High Holborn, 1909.

The author says the large amount of research work which has been devoted to the building arts during recent years has considerably modified the processes of manufacture of certain materials as well as the methods of building, while the efforts at standardization, although by no means complete, have contributed to a more uniform and rational practice. It is to these causes that the majority of the alterations in the present edition are due ; the most important occurring in the chapters relating to Limes and Cements, Concrete, Plastering, Timber, Paints and Varnishes; Brickwork, Flues, Fireplaces and Tall Chimneys, Skeleton Steel Construction, Reinforced Concrete, Joinery, Sanitation, Hot Water Apparatus and Heating, the majority of which have been rearranged and extended, fresh illustrations being introduced in a number of instances to supplement or supersede those formerly given. The calculations throughout the book have been still further simplified and fresh examples added. An abridged summary of the valuable Report by the Royal Institute of British Architects has been inserted in the chapter on Reinforced Concrete, and by special permission of the Engineering Standards Committee, particulars of the Moments of Inertia and other geometrical properties of British Standard Sections are published for the first time. In carrying out the revision due regard has been given to the needs of students by satisfying, as far as is possible in a handbook, the syllabuses of the various examining bodies, while at the same time the author has steadily kept in view the requirements of those engaged in designing and executing building work. The endeavour throughout the book has been to describe the essential principles of good construction and to illustrate them by typical examples selected in many cases from actual practice. The work has been thoroughly well done, and no student in the advanced and honours stages can afford to be without the book. In looking through the work we observe that (p. 6) the sand for mortar "should have sharp angles," but we have never seen any natural sand answering to this description ; wherever obtained it is water-worn and necessarily more or less rounded, at any rate, after examining a great many specimens of "sharp sand" we have found that the angles are never sharp, and that the use of the word can only be taken to mean more or less angular and free from earthy matter. In describing the method of ascertaining the voids in the aggregate for concrete (p. 35) it is said that by filling a measure of known capacity with the aggregate and pouring in water from another vessel of known capacity, the quantity of water required to entirely fill the measure containing the aggregate will be the measure of the voids. This makes no allowance for the water soaked up by the aggregate, as in the case of broken brick, stone, or coke breeze ; it would have been more correct if the water had been measured after running it off from the aggregate, but this would not account for the portion retained on the surface of the material or held between the smaller particles by capillary attraction, and the true measure of the voids would probably be somewhere between the two results. The sample test piece for ascertaining the strength of cast-iron is described (p. 142) as 1 in. square, and sustaining a load of 500 lbs. on the centre of 4 ft. 6 in. span. This is an unusual size and span in practical work ; the ordinary specification clause used by engineers with slight variations is "Three bars, each 3 ft. 6 in. long, 2 in. deep, and 1 in. wide, to be cast in dry mould from each melting at which any of the specified work is cast. These bars to be tested separately as follows : The lower side, or thin edge, of the casting to be placed downwards upon rigid bearings, with 3 ft. clear span, each bar to deflect not less than $\frac{3}{16}$ in. with a load of 25 cwt. in centre having a bearing not more than 1 in. wide upon the bar, to break with a minimum load of 28 cwt., and an

average upon the three bars of not less than 30 cwt. Samples prepared in lathe to bear $2\frac{1}{2}$ tons per square inch tensile strain before loss of elasticity, and to break with not less than 7 tons per square inch, or an average on three samples of $7\frac{1}{2}$ tons." In determining the resistance of soils to the pressure of foundations (p. 207) mention is made of an iron bar 6 in. by 6 in. in section weighing 30 lbs. It was pointed out in reviewing a previous edition that this could not be called a bar, as with a section 6 in. by 6 in. the length would only be 3 in. to make up a weight of 30 lbs., and that this oversight threw some doubt upon the whole description. The circular fire-clay flues recommended (p. 299) have a disadvantage not named, of letting the soot come down with a run very much more frequently than the rectangular flues where the soot is held by friction at the corners. Gordon's formula containing d =least diameter is given (p. 416) as Rankine's, and although it certainly is quoted by Rankine, the formula commonly known as Rankine's, or the Rankine-Gordon formula, containing r =radius of gyration, is here called (p. 424) the revised Rankine formula. The sliding factor of safety to which no name is given is that known as Shaler-Smith's. Although steel framed structures are referred to (p. 428) it was not to be expected that the new London County Council Building Act Amendments for construction and stresses should have been given as they are so recent, but they should be included in the next edition. By that time probably the Regulations for the use of reinforced concrete will also be available.

HENRY ADAMS.

The General Qualities of Architecture in its Relation to Church and State.

THE attitude of the ancient Greeks towards religion, art, dialectic and rhetoric is worthy of consideration. Their Pantheon, says Viator, in *The Architect* of September 17th, was peopled by a mythological crew of demonic divinities, who were actuated by human passions and were willing, in consideration of bribes, to divert the otherwise proposed course of events. Originally these divinities merely symbolized various forces and propensities of Nature, but after a lapse of time they received an accretion of individual and divine power. The Greeks treated their gods and goddesses with a cool aloofness of passion that has in it an amusing element ; there was no religious ardour such as is now understood, and characters like Socrates were not numerous enough to affect the general racial characteristics, the latter including many interesting and even fine qualities, though amongst these we do not find religiosity. This being so, what wonder is it that the Classic temples, however much we may admire them as works of art, do not appeal to our religious sense ? They leave us sensuously cold and uninspired and conscious of the insincere religion that accompanied their production. Insincere ! That is a most suitable adjective to use, for as it well defines the Grecian attitude towards ethical matters, so was the opposite quality—sincerity—the potent factor in all that concerned their art ; and it is directly due to this unaffected bias towards the fine arts that the Greeks produced buildings which cause beholders to forget purpose and fitness in the rapt artistic admiration engendered by the other essential qualities of good design.

Examining further we may note the Athenian love for academic debates, their rigorous adhesion to and devotion for good laws, their virile belief in the *mens sano in corpore sano* ; and thus we learn to realize the fact that in these matters their art aided the sense of fitness instead of opposing it. For though the academic qualities of their religious buildings served to express in the main their own attitude towards religion, we hold that such is not the natural or rational attitude. On the other hand, the dignified sedateness and the restrained beauty of their secular public buildings were more worthily and suitably decked in Classic garb than they would have been in any other known to the children of men, Renaissance alone excepted.

Though Roman as compared with Grecian art was somewhat debased, yet it possessed the same elemental features and a similar aspect in regard to religion up to the days of Constantine the Great. But the Romans developed a love of luxury unknown to the Athenians in their palmy days, and this taste acted adversely respecting the architectural design of many of their public buildings, though bathing establishments and places of entertainment would benefit ; and in this connection the Pantheon at Rome, regarded as a hall attached to public baths, has indisputable claim to admiration, whilst viewed as a temple it is unsatisfactory.

Following upon those remarks that child of Classic architecture known under the name of Renaissance is similarly less fitted for the expression of religious ideals than are those styles which bear the stamp of indigenous religious fervour. And it is to be observed generally that people are more soulfully impressed in places of worship designed in one of the Gothic styles, even if at times they are more intellectually moved by Renaissance churches.

Before, however, adverting to Gothic art, a few remarks may be accorded to early Christian and some other styles, and to the position they hold in regard to inherent suitability for Church or State architecture. Respecting early Christian populations there cannot be two opinions as to the sincerity of their religious tenets, a sincerity not necessarily reflected in their ecclesiastical buildings for reasons now to be stated. Where persecution of the believers was not actively exercised, it was nearly always to be anticipated ; consequently religious enthusiasm expended itself in acts of devotion and martyrdom, though it was at the same time recognized as impolitic and unchristian to invite the imposition of that thorny crown by any show of luxury such as might provide a lever wherewith the persecutors could raise a specious case against the followers of the new faith. Not indeed that there was much chance of being luxurious, as the early Christians were for the most part poorly endowed with the world's goods, and were thus deprived of the means of gratifying a natural desire to honour their Master by the presentation of choice gifts. Policy and poverty thus combined to prevent the early Christian churches from being places of grandeur. As a result the buildings erected were mere *aulæ* or *basilicæ*, the plan being that of the old heathen Hall of Justice and not infrequently structurally decorated with portions of old heathen disused temples ; of necessity the result was nearly as cold and formal as Classic art itself, and it could in no way interpret the mysticism attaching to Christian tenets.

But (it may be remarked) Oriental art is not cold and formal ; Chinese, Japanese, Byzantine, Indian—these are not cold and formal, nor actuated in regard to expressing religious sentiment by any such restrictions as just detailed. To dispose of the first-named it is well known that the Celestials have been conservative in art as in religion and everything else from the early days of their very ancient empire ; any reforms and progress observable in their territories have been forced upon them by external pressure. Though a very ancient civilization—or perhaps because of its antiquity—it is one that other nations regard as childish in many respects ; with childhood, crude ideas as to form and colour go hand in hand. The religion of Confucius is one apart from all other known creeds and is perhaps justly given effect to by the fantastic designs of Chinese art. In fact, this nation is adapted (and possibly better adapted than others) to express garden architecture and similar work, but it cannot do justice to Church or State buildings.

Any nation also whose taste for luxurious display pervades all its actions at home and abroad, a nation that regards the Ruling Power as supremely sensuous and the future state of existence as a life of voluptuous pleasures, any such nation is but ill-adapted to express religious or State architecture in a manner that would adequately realize their respective claims; and consequently, under the ban of unsuitability, we must include Oriental styles generally.

Byzantine architecture gives evidence of the co-operation of true religious feeling and expression, though for the full development of this we must seek the Gothic styles. In the eastern empire of Constantine buildings were erected whose planning was no less serviceable for the proper exercise of worship than that of the early Christian buildings, and whose architectural treatment, unshackled by considerations either of prudent seclusion or of economy, yet evinced an artistic avoidance of exuberance combined with a justifiable use of colour and of structural design.

It is, however, only when the period of the later Romanesque work is reached that a distinctly expressed ecclesiasticism is observable. Perhaps the main factor responsible for this is the religious ardour arising after the close of the tenth century of our era, when people were relieved from the fear that the world would end with the close of the year 1000. The bar safely crossed, the nations put out to sea full of hope and thankfulness, and being more simple-minded and direct than those of to-day they were not afraid to express their love and gratitude in buildings devoted to their religious worship.

It must be evident that where the idea of a God is of an exalted Being inhabiting space and far removed from the pettinesses of mortals, this will best find expression where no cramped effects are to be seen; and as the curious notion has ever been prevalent that heaven is above us, not around us, this would again be best expressed by a lofty building.

But there is another point to bear in mind as probably influencing the adoption of loftier church interiors, and this is the introduction of the organ fairly contemporaneously with the advent of the eleventh century. To give due effect to the tones of this majestic instrument a spacious building is required.

At the same time also (or perhaps somewhat earlier) there arose from whatsoever cause a general disuse of Autolycean trifles from ancient heathen edifices such as had formerly been introduced mosaic-wise into Christian churches. A certain "feeling" of Classicism in the ornament was to be expected, but progressively this gave place to other forms not intrinsically better by any means, but as having no resemblance to what had preceded they kept the mind of the observer free from any suggestions of heathen work. Anything in the nature of affectation in this matter of suitable mouldings and ornament is to be deprecated; the bowtell, dog tooth, cat's head, roll moulding, diaper, etc., are no more expressive of religious feeling than are the echinus, scotia, egg-and-dart, honeysuckle or acanthus. Where the difference arises

is in the workmanship, mediæval art showing an individuality, a freedom from undue restraint, a lack of cold formality, altogether opposed to the practice of Classic art.

The desire to obtain increased proportionate height prepared the way for the use of the pointed arch ; and here, once again, is apparent an added interpretation of religious ideals. With the semicircular arch the eye is held within a confined space, travelling from one springing point to the other almost unconsciously ; with the pointed arch the effect is just the reverse, the eye tending to continue the course of flight upwards. Quite unconscious interpretation we may believe this use of the pointed arch to be, but none the less effective. The idea that pointed architecture had its origin either in leafy avenues or in intertwining round arches may be set aside as being more plausible than probable.

A reference was made earlier to the mysticism attaching to Christian tenets ; this may be contrasted with what may be termed the "mystery" connected with some of the more remote faiths wherein the prevalent idea was that the gloom of the temple interior should be in direct ratio to its sanctity. This effect of gloom and mystery was obtained by two methods, if not three ; the ancient temple consisted of a congeries of rooms progressively narrower, lower and more shut off from the light of day as the innermost sanctuary was approached. This could not but result in a tendency to making a terror of religion, and the hierarchy enhanced this impression on the lower orders by calling to its aid the use of scientific tricks and mechanical subtleties.

How different to the more modern ideal of concentrating the resources of art and shedding a brilliant light upon the central point of attraction in a place of worship, as most effectively seen in the chancel of a church. The soul of religion is not wrapped in mysterious veils, and the faith of worshippers is invited to satisfy its cravings intelligently, not blindly. The accidental mysticism arising from what has been termed "dim, religious light" has been perhaps unduly insisted upon, as the feeling is probably the result of environment.

The fitness of pointed architecture for ecclesiastical buildings having been analysed in brief, what may be said about its suitability for State edifices ? Firstly, it is evident that the more elevated the purpose of the building the more should it express dignity, formality, reserve, stateliness and continuity. It would be unpardonable to suggest that in most Governmental methods there is any continuity of policy in the generally accepted sense, and yet, on the principle that "under all circumstances the King's Government must be carried on," there is an underlying idea of continuity that should find expression in the "frozen music" of architecture. In Gothic art there is a lightness of touch, a certain irresponsibility and other qualities mentioned earlier, that militate against its fitness for the expression of State architecture ; and whilst these qualities may recommend it for private and for certain public buildings,

yet it is conceivable that other qualities may prove adverse to its free use even for these purposes.

The English Houses of Parliament are well adapted to point a moral, though they do not adorn the tale of nineteenth century progress. Who does not recall Carlyle's denunciation of them ("Latter-Day Pamphlets"), written as the time of their completion approached? "A wilderness of stone pepper-boxes with tin flags atop . . . if this is ideal beauty, except for sugarwork and the more elaborate kinds of gingerbread, what is real ugliness? Can any earnest soul pass them without mentally exclaiming 'Apaga!' and striking a pious cross in the air?" So far Carlyle. Dignity (that is, the expression of it) is at a discount, and where the whole surface is cut up into restless elaboration the expression of continuity is impossible; and with the absence of these is also to be noted the absence of formality (though not of stiffness by any means), reserve and stateliness.

When our eyes are turned to the English Law Courts in the Strand we see another phase of Gothic, also unsuitable. The Palace of St. Stephen's (criticised in the preceding paragraph) is Classic clothed in Gothic garb; the Law Courts renounce Classicism altogether and presents to passers-by a confused jumble of buildings that quite fail to typify the orderly process of law.

But when we regard the various blocks of Government offices within sight of St. Stephen's, their fitness is at once apparent, and we are in a position then to establish the justice of our adverse criticisms above and to absolve ourselves from any charge of jaundiced views.

In State architecture it is proper to include Royal palaces, where the predominating influence may indeed be traced to their public character, though the privacy attaching to a home must also find due expression. We may exemplify three Royal palaces here—one at Madrid (not the Escorial), one at Vienna, and one in England; all three are Renaissance in style. The Spanish palace exhibits a dignity, formality and symmetrical disposition that relegate it in appearance to the rank of a worthy Parliament House, for it bears no impress of domesticity. The Vienna palace, though less formal, shows just as few signs of the domestic character. Hampton Court Palace, however (we refer to Sir Christopher Wren's work there), by its greater freedom of treatment (and more particularly in the use of cheerful red brickwork as an integral portion of the design) acquires an air of combined stateliness and homeliness which in conjunction with its noble proportions and fair surroundings at once sets the palatial seal upon it and inspires in the beholder a sense of its absolute fitness. Gothic art in one or other of its phases may serve for private palaces, but with domestic architecture in general this article is not concerned.

Mainly about Members.

A new Masonic Hall has been erected in Mile Town, Sheerness, at a cost of about £2,000, the architect being MR. E. J. HAMMOND.

A new Church of All Saints is in course of erection at Queen's Park, Bedford. Sir Arthur Blomfield & Sons and MR. GEORGE P. ALLEN are the architects.

The Local Government Board have approved of sixty-one labourers' cottages being built in the Rathdown Rural District, chiefly in the vicinity of Greystones and Enniskerry. MR. R. M. BUTLER, F.R.I.B.A., of Dublin, is the architect.

The second of four Workmen's Institutes, provided by Mr. John Cory, at Cardiff, was recently opened. The premises, formerly used as a mission hall, have undergone many structural alterations, the architect being MR. WILLIAM H. SCOTT.

The new premises of the Tipton Nurses' Home, formerly a private residence, have now been opened. The house has been altered to suit the purpose for which it is intended, plans and specifications having been drawn up by MR. G. H. WENYON.

A Memorial Chapel to the late Vicar of Prestatyn is to be built in connection with the Parish Church; it will provide extra accommodation for about forty-five persons, and a vestry. The architects are Messrs. Prothero, PHILLOTT & BARNARD, of Cheltenham.

The foundation stone of a new Primitive Methodist Chapel, which is being erected at Brown Lees, Staffs, to accommodate 400 persons, and at a cost of £1,600, including the additions to the School were recently laid. The architect is MR. ELIJAH JONES, of Hanley.

The foundation stone of the new Church of St. Andrew, Cleveleys, will shortly be laid. A total of £10,000 will be needed for the Church, Vicarage, and Sunday School. The Church itself will cost about £5,000, and will seat 550. The architect is MR. R. H. CUNLIFFE, of Accrington.

A new Elementary School is to be built at Ilkeston, for the Ilkeston Education Committee, to be known as the Hallcroft School. The School will be built in two blocks, each accommodating 340 scholars, and is planned on the corridor system. The contract amount is £7,290. MR. H. TATHAM SUDBURY, of Ilkeston, is the architect.

The two important blocks of buildings which have recently been added to the Toxteth Workhouse, are to serve as mental hospitals for 200 males and 100 females. The complete cost of both buildings, including furnishing, fire mains, hydrants, and heating, is about £20,000, or equal to £70 per bed. The architect is MR. WALTER W. THOMAS, Past-President, S.A.

The Bridge Committee have recommended to the Council the acceptance of the plans of MR. BRUNDELL, architect, for the erection of two shops in the new Marshgate and Frenchgate Road, Doncaster, on premises now occupied as an eating house, and one shop between the new Bay Horse and Mr. Burdett's new shop at the foot of the bridge. The estimated cost is about £4,000.

With the object of modernizing the Sunday School in its methods and organization, the members of the Baptist Church at Noddfa, Treorky, have a scheme on hand, involving an expenditure of over £6,000. Their new building, Beulah, which has just been opened, forms a part of that scheme, and has cost £1,450. The plans were drawn by MR. T. D. THOMAS (of the firm of MESSRS. W. D. MORGAN, Pentre).

The substantial and picturesque new bridge over the River Wey at Guildford was recently opened by the Mayor and Corporation. The bridge was erected from the designs of Messrs. CLEMENCE & Moon, architects, Guildford; Messrs. HENRY ADAMS & Son, of 60, Queen Victoria Street, London, acting as Consulting Engineers. The cost was defrayed by public subscription. A complimentary luncheon was held previous to the opening ceremony.

The Durley Dean Mansion Hotel and Hydro, on the West Cliff, Bournemouth, has been enlarged. The additions embrace a dining room, capable of accommodating 250 persons, on the ground floor, above being four stories of bedrooms, and in the basement kitchens, boiler house, etc. In addition the existing building has been remodelled. An electric lift (by Waygood) has been introduced to all the floors. The architects were MESSRS. HAWKER & MITCHELL.

A new Council School has been built at Ammanford. The School is a one-block structure, and will provide accommodation for 500 children. It is built of Ruabon bricks, with terra-cotta dressings, and contains nine classrooms, besides an assembly hall and master's and mistress's rooms, lavatories, porches, storerooms, and corridors. It is fitted throughout with low-pressure heating apparatus, has block floors, and glazed brick dados. The School was designed by MR. W. D. JENKINS, of Llandilo.

In response to an invitation from the Aldershot Council to local architects to send designs for a Secondary School, four sets of drawings were received. The award has been made by Mr. W. J. Taylor, the Surveyor to the Hants County Council. The prize was £25, which will be deducted from the regular fees if the work is carried out under the supervision of the successful competitors. Mr. Taylor gives first place to a set of plans sent in by MESSRS. KINGHAM & KINGHAM, the estimated cost of the buildings being £6,707.

The scheme for the restoration of Millbrook Old Church is making progress. A report has been received from MR. B. D. CANCELLOR, of Winchester, the Diocesan architect, which will be laid before the Committee. The tower is reported to be sound, though certain work on it is needed; but the roofs of chancel and nave are in a bad state, and the east wall of the chancel is very much out of the perpendicular.

The nave walls are sound, and will not require much attention. If the work is not taken in hand at an early date he recommends that some temporary preservation work should be undertaken.

At the Norwich Consistory Court an application was recently made with regard to the proposed restoration of the Parish Church Tower at Attleborough. Mr. A. W. Jones said the Chancellor had expressed a strong opinion that the work should be done under the supervision of an architect. In accordance with that opinion the Committee had consulted Mr. A. J. LACEY, of Norwich, who had practically approved the specifications recently submitted. The plans having been explained in detail to the Chancellor by Mr. Lacey, a faculty was granted for the repair of the Tower. Some work proposed to be done to the Porch will be the subject of a further application.

The erection has been commenced of a new Primitive Methodist Church at Brown Lees. The buildings, the front and side of which are in best red pressed facing bricks, relieved with grey terra-cotta dressings, will cost about £1,600. The buildings comprise the Church, Minister's Vestry, an Organ Chamber, and Classrooms. The Church is ventilated by means of extract air-pump ventilators on the roof, and fresh-air inlets, and the classrooms and vestries by air grids; also most of the windows are made to open. The heating will be by low-pressure hot water system, with radiator. The premises will be erected from the designs of Messrs. ELIJAH JONES and Jackson, architects, Hanley and Wellington (Salop).

The foundation stone has been laid of a new Cottage Hospital in Felixstowe. The building will contain on the ground floor matron's sitting room and doctor's room, hall, two four-bed wards, and two private wards of one bed each, with duty room between the large wards for proper supervision. There will also be an operating theatre, bathrooms, and sanitary conveniences, and store accommodation. On the first floor are nurses' sitting room, four bedrooms, linen room, kitchen, scullery, etc. The whole of the ground floor will be covered with the "Perfect" jointless flooring, and all internal and external angles will be rounded. Mr. H. J. WRIGHT has prepared the plans for the work.

A house is being built at Farnham Royal, near Slough, Bucks, for Mr. K. C. Hankinson. All the best rooms have been planned to face the front, as there is a splendid view over the valley to Windsor Castle and district. The general walling is of rough stocks covered with cement rough-cast of a white tint, the plinth being of red and purple bricks. The filling between the half timbering is of cement plaster with a tinge of ochre. The porch is of Bath stone, with the joints slightly recessed with dark blue pointing, and roof covered with hand-made sand-faced tiles. The pitch pine joists and beams of hall and dining room are exposed, and stained a dark tint. The windows are lead lights with steel cores to the comes. The architects are Messrs. MOSCROP-YOUNG & Glanfield, of 12, Buckingham Street, Strand, W.C.

The Council of The Association of Engineers-in-Charge have unanimously elected MR. HENRY ADAMS, M.INST.C.E., M.I.MECH.E., etc., as their President in succession to Mr. James Swinburne, F.R.S., M.INST.C.E., and an attractive programme has been drawn up for the new session, including some good papers and several social functions. Among the members of the Association, Mr. Adams is one of the oldest of the engineers-in-charge, having so far back as 1865 been in responsible charge in the outdoor department of Sir W. G. Armstrong & Co., of Elswick Works.

The educational facilities enjoyed by the youth of Cardiff were added to in an important degree last month, when the Lady Mayoress (Mrs. Lewis Morgan) formally opened the new Laboratory and Art Block which have been constructed as an annexe to the Canton Municipal Secondary School in order to comply with the requirements of the Board of Education. Covering an area of 7,272 square yards, the School provides accommodation for 250 boys and 250 girls, at a cost of £24,500, exclusive of the site, which was purchased for £5,600. The new block, opened on Friday, cost £4,300, and is approached from the ground floor of the main building by means of a covered corridor. It comprises an art room, 37 ft. by 24 ft. 6 in. ; a chemical laboratory 34 ft. by 22 ft., a physical laboratory of the same dimensions ; a lecture room, 26 ft. by 28 ft. ; and balance, dark, and store rooms, all equipped with most modern appliances. The building was constructed under the supervision of the architects, MESSRS. JAMES & MORGAN, F.F.R.I.B.A., of Cardiff.

Qualifying Examination for Membership.

The half-yearly examination will be held in London, Manchester, Cardiff and Oxford, on October 5th, 6th, and 7th, 1909, and also in Johannesburg, South Africa, on December, 8th, 9th, and 10th.

The entries for the latter close on November 15th, and applications for particulars should be made to the Hon. Secretary of the South African Branch, Mr. E. H. Waugh, P.O. Box 1049, Johannesburg.

Nominations for Officers and Council, 1909-1910.

The following is the list of Members nominated up to the time of going to press. Additional nominations for Officers and Council may be made by *any three Members* who shall send in their nomination, properly signed, *before the first day of October*, when the names of such nominees shall be incorporated with the list proposed by the Council. There are at present twenty-two candidates for eighteen seats on the Council. Those starred are now serving on the Council. Ballot papers will be posted early in October, and it should be noted that Members whose subscriptions are unpaid are not entitled to vote.

President	..	*BOND. GEO. E., J.P.	Rochester.
Vice-President	..	*TUBBS. PERCY B., F.R.I.B.A.	London.
"	..	DYSON. J. W.	Newcastle-upon-Tyne.
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Annual General Meeting.

The Twenty-fifth Annual General Meeting of The Society of Architects will be held at Staple Inn Buildings (South), Holborn, W.C., on Thursday, October 14th, 1909, at 8 p.m.

Agenda :—

1. The President to take the chair.
2. Minutes of the last Annual General Meeting.
3. Nominations for Membership.
4. Announcements.
5. Ballot for candidates for Membership.
6. Council's Annual Report.
7. Election of Officers and Council, 1909-10. (Scrutineers' Report.)
8. Votes of thanks.

Ballot papers cannot be accepted after 8 p.m.

Meetings and other Fixtures of the Society.

Subject to such alterations and additions as may be announced from time to time in the "Journal" or by circular.

- Oct. 1st. Last day for submitting result of Travelling Studentship Tour.
" " Last day for receiving nominations for Council.
" 5th, 6th and 7th. Examinations for Membership. London, Manchester, Cardiff and Oxford.
" 14th. Twenty-fifth Annual General Meeting.

Employment Register.

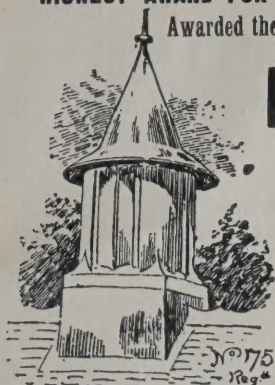
The Society's Register contains the names of assistants available at short notice. There is no fee to Members or Students of the Society.

The Secretary has also occasional enquiries for partnerships and will be glad to receive or give particulars when desired.

Index and Binding Cases.

The Index is published with this issue, and Binding Cases for Volumes I. and II. may be obtained of the Secretary, price Three Shillings each.

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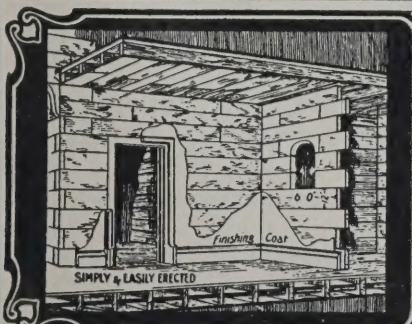


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